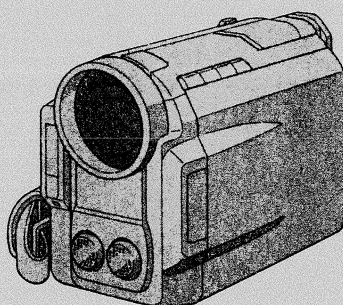


JVC

SERVICE MANUAL

DIGITAL CAMCORDER

GR-DVL9500EG/EK



Mini **DV** PA

SPECIFICATIONS *(The specifications shown pertain specifically to the model GR-DVL9500EK/GR-DVL9600EK)*

General

Power supply	: DC 6.3 V --- (Using the AC Power Adapter/Charger) DC 7.2 V --- (Using battery pack)
Power consumption	
LCD monitor off, viewfinder on	: Approx. 5.3 W
LCD monitor on, viewfinder off	: Approx. 6.5 W
LCD monitor on, viewfinder on	: Approx. 7.1 W
Format	: DV Format (SD mode)
Signal format	: PAL Standard
Video signal recording format	: Digital Component Recording
Cassette	: Mini DV Cassette
Tape Speed	: SP: 18.8 mm/s LP: 12.5 mm/s
Maximum recording time	: SP: 60 min. LP: 90 min. (using M-DV60ME cassette)
Pickup	: 1/3" CCD
Lens	: F1.8, f = 5 to 50 mm, 10:1 Power Zoom Lens
Filter diameter	: $\phi 57$ mm
LCD monitor	: 3.8" diagonally measured, LCD panel/TFT active matrix system
Viewfinder	: Electronic viewfinder with 0.55" colour LCD
Speaker	: Monaural
Operating temperature	: 0°C to 40°C
Operating humidity	: 35% to 80%
Storage temperature	: -20°C to 50°C
Dimensions	: 72 (W) x 94 (H) x 128 (D) mm (with the LCD monitor closed, and with the viewfinder fully tilted downward and pushed back in)
Weight	: Approx. 670 g

Connectors

S-Video output	: Y: 1 Vp-p, 75 Ω , analogue output C: 0.29 Vp-p, 75 Ω , analogue output
Video output	: 1 Vp-p, 75 Ω unbalanced, analogue output (via AV OUT connector)
LLIP/Digital still output	: $\phi 3.5$ mm, 4-pole, mini-head jack (compatible with RC-532s plug)
Audio output	: -3 dBs, 1 k Ω analogue output (via AV OUT connector)
Headphone output	: $\phi 3.5$ mm, stereo (via AV OUT connector)
External microphone input	: -60 dBs, high impedance unbalanced with $\phi 3.5$ mm (stereo)
DV connector	: 4 pin, IFF1394 continuity (GR-DVL9600: input/output, GR-DVL9500: output only)

AC Power Adapter/Charger AA-V68EK

Power requirement	: AC 110 V to 240 V $\sim$, 50/60 Hz
Power consumption	: 20 W
Output	
Charge	: DC 7.2 V --- , 0.27 A
VTR	: DC 6.3 V --- , 1.8 A
Dimensions	: 94 (W) x 35 (H) x 122 (D) mm
Weight	: Approx. 300 g

Specifications shown are for SP mode unless otherwise indicated. I & O.E. Design and specifications subject to change without notice.

TABLE OF CONTENTS

	Section	Title	Page	Section	Title	Page
Important Safety Precautions				4. CHARTS AND DIAGRAMS		
INSTRUCTIONS				NOTES OF SCHEMATIC DIAGRAM 4-1		
1. DISASSEMBLY				CIRCUIT BOARD NOTES 4-2		
1.1 BEFORE ASSEMBLY AND DISASSEMBLY 1-1				4.1 BOARD INTERCONNECTIONS 4-3		
1.1.1 Precautions 1-1				4.2 MSD CPU SCHEMATIC DIAGRAM 4-5		
1.1.2 Assembly and disassembly 1-1				4.3 AUDIO AD/DA SCHEMATIC DIAGRAM 4-7		
1.1.3 Disconnection of Connectors (Wires) 1-1				4.4 MAIN AUDIO SCHEMATIC DIAGRAM 4-9		
1.1.4 Screws used in assembly of cabinet parts and boards 1-2				4.5 AUDIO NR SCHEMATIC DIAGRAM 4-11		
1.2 TOOLS REQUIRED FOR ADJUSTMENTS 1-2				4.6 A/H/P SEL SCHEMATIC DIAGRAM 4-13		
1.3 DISASSEMBLY/ASSEMBLY OF CABINET PARTS 1-4				4.7 VIDEO 2 SCHEMATIC DIAGRAM 4-15		
1.3.1 Disassembly flow chart 1-4				4.8 VIDEO 1 SCHEMATIC DIAGRAM 4-17		
1.3.2 Disassembly method 1-4				4.9 PRE/REC/EQ & DAC SCHEMATIC DIAGRAM 4-19		
1.4 DISASSEMBLING/REASSEMBLING LCD MONITOR 1-10				4.10 V-OUT SCHEMATIC DIAGRAM 4-21		
ASSEMBLY 1-10				4.11 MAIN1 CIRCUIT BOARD 4-25		
1.5 DISASSEMBLING/REASSEMBLING ELECTRONIC VIEWFINDER ASSEMBLY 1-11				4.12 CPU SCHEMATIC DIAGRAM 4-27		
1.5.1 Dividing into two sections - Section (I) : case assembly, and Section (II) : holder (LCD/switch) and hinge assembly 1-11				4.13 A/D SCHEMATIC DIAGRAM 4-29		
1.5.2 Disassembling section (I) : case assembly 1-11				4.14 VDR SCHEMATIC DIAGRAM 4-31		
1.5.3 Disassembling section (II) : holder (LCD/switch) and hinge assembly 1-11				4.15 DSP SCHEMATIC DIAGRAM 4-33		
1.6 DISASSEMBLY/ASSEMBLY OF OP BLOCK 1-12				4.16 IRIS & AF/ZOOM SCHEMATIC DIAGRAM 4-35		
1.6.1 Replacement of CCD image sensor 1-12				4.17 CDS/TG SCHEMATIC DIAGRAM 4-37		
1.6.2 How to remove CCD image sensor 1-12				4.18 STROBE SUB SCHEMATIC DIAGRAM 4-39		
1.6.3 How to reassemble CCD image sensor to OP block assembly 1-12				4.19 MAIN2 CIRCUIT BOARD 4-43		
1.7 CONNECTION OF CONNECTORS 1-13				4.20 REGULATOR SCHEMATIC DIAGRAM 4-45		
1.8 CONNECTION OF CONNECTORS (PATCH CORDS) 1-14				4.21 REGULATOR CIRCUIT BOARD 4-47		
1.9 HOW TO TAKE OUT TAPE 1-15				4.22 MDA SCHEMATIC DIAGRAM 4-49		
1.10 SERVICE NOTE 1-16				4.23 MDA CIRCUIT BOARD 4-51		
1.11 REGARDING STROBE LIGHT EMITTING CAPACITOR 1-17				4.24 IR & TALLY AND AV/MIC JACK SCHEMATIC DIAGRAMS 4-53		
1.12 PRECAUTIONS ON HANDLING THE LITHIUM SECONDARY BATTERY 1-17				4.25 STROBE CIRCUIT BOARD 4-55		
1.13 EMERGENCY DISPLAY 1-17				4.26 STROBE SCHEMATIC DIAGRAM 4-57		
2. MECHANISM ADJUSTMENT				4.27 JACK SCHEMATIC DIAGRAM AND JA/D-IF CIRCUIT BOARD 4-59		
2.1 PRELIMINARY REMARKS ON ADJUSTMENT AND REPAIR 2-1				4.28 DIGITAL-IF SCHEMATIC DIAGRAM 4-61		
2.1.1 Precautions 2-1				4.29 MONITOR SCHEMATIC DIAGRAM 4-63		
2.1.2 Necessary jigs 2-1				4.30 MONITOR CIRCUIT BOARD 4-65		
2.1.3 Notes on disassembling/reassembling procedure 2-1				4.31 CCD SCHEMATIC DIAGRAM 4-67		
2.1.4 Screws and washers used in mechanism 2-1				4.32 CCD CIRCUIT BOARD 4-69		
2.2 DISASSEMBLING/REASSEMBLING MECHANISM ASSEMBLY 2-2				4.33 MONITOR BL CIRCUIT BOARD 4-70		
2.2.1 General statement 2-2				4.34 MONITOR BL SCHEMATIC DIAGRAM 4-71		
2.2.2 Explanation of mechanism mode 2-2				4.35 VF SUB AND VF BL SCHEMATIC DIAGRAMS 4-73		
2.2.3 Mechanism timing chart 2-3				4.36 VF SUB AND VF BL CIRCUIT BOARDS 4-75		
2.2.4 Disassembling/reassembling mechanism assembly 2-4				4.37 W/B SCHEMATIC DIAGRAM AND W/B CIRCUIT BOARD 4-76		
2.2.5 Disassembling/reassembling 2-7				4.38 OPERATION (DECK) UNIT AND OPERATION (CAMERA) UNIT SCHEMATIC DIAGRAMS 4-77		
2.2.6 List of procedures for disassembly 2-13				4.39 VIDEO SYSTEM BLOCK DIAGRAM 4-79		
2.2.7 Checkup and adjustment of mechanism phase 2-14				4.40 AUDIO BLOCK DIAGRAM 4-83		
2.2.8 Reassembling slide deck assembly and main deck assembly 2-15				4.41 POWER SYSTEM BLOCK DIAGRAM 4-85		
2.2.9 Locating tension pole 2-16				4.42 REGULATOR SYSTEM BLOCK DIAGRAM 4-87		
2.3 PROCEDURE OF COMPATIBILITY AND P.B. EQ. (ERROR RATE) ADJUSTMENTS 2-17				5. PARTS LIST		
2.3.1 Precautions 2-17				5.1 PACKING ASSEMBLY <M1> 5-1		
2.3.2 Preparation for adjustment 2-17				5.2 FINAL ASSEMBLY <M2> 5-3		
2.3.3 Linearity adjustment 2-18				5.3 MECHANISM ASSEMBLY <M3> 5-7		
2.3.4 PB switching point adjustment 2-18				ELECTRICAL PARTS LIST 5-9		
2.3.5 Head REC current adjustment 2-18				MAIN1 BOARD ASSEMBLY <01> 5-9		
2.3.6 P.B. EQ. (error rate) adjustment (for SP and LP) 2-19				MAIN2 BOARD ASSEMBLY <02> 5-15		
2.3.7 Measurement method of P.B. EQ. (error rate) 2-19				REG BOARD ASSEMBLY <03> 5-20		
2.4 SERVICE NOTE 2-20				MDA BOARD ASSEMBLY <04> 5-21		
3. ELECTRICAL ADJUSTMENT				STROBE BOARD ASSEMBLY <05> 5-22		
3.1 PREPARATION BEFORE ADJUSTMENT 3-1				JA/D-IF BOARD ASSEMBLY <06> 5-23		
3.1.1 Precautions 3-1				MONITOR BOARD ASSEMBLY <07> 5-23		
3.1.2 Required test equipment 3-1				CCD BOARD ASSEMBLY <08> 5-26		
3.1.3 Jigs necessary for electrical adjustment 3-1				W/B BOARD ASSEMBLY <09> 5-26		
3.1.4 Setup 3-1				MONITOR BL BOARD ASSEMBLY <11> 5-26		
				VF SUB BOARD ASSEMBLY <12> 5-26		
				VF BL BOARD ASSEMBLY <13> 5-26		
				6. AC POWER ADAPTER		
				6.1 CABINET ASSEMBLY <M4> 6-1		
				6.2 MAIN/SUB SCHEMATIC DIAGRAM 6-2		
				6.3 CIRCUIT BOARD 6-4		
				6.4 ELECTRICAL PARTS LIST 6-5		

The following lists the differing points between Models GR-DVL9500EG and GR-DVL9500EK in this series.

	GR-DVL9500EG	GR-DVL9500EK
AC Power Adapter/Charger	AA-V68EG	AA-V68EK

Important Safety Precautions

Prior to shipment from the factory, JVC products are strictly inspected to conform with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

●Precautions during Servicing

1. Locations requiring special caution are denoted by labels and inscriptions on the cabinet, chassis and certain parts of the product. When performing service, be sure to read and comply with these and other cautionary notices appearing in the operation and service manuals.

2. Parts identified by the  symbol and shaded (100%) parts are critical for safety.

Replace only with specified part numbers.

Note: Parts in this category also include those specified to comply with X-ray emission standards for products using cathode ray tubes and those specified for compliance with various regulations regarding spurious radiation emission.

3. Fuse replacement caution notice.

Caution for continued protection against fire hazard.

Replace only with same type and rated fuse(s) as specified.

4. Use specified internal wiring. Note especially:

- 1) Wires covered with PVC tubing
- 2) Double insulated wires
- 3) High voltage leads

5. Use specified insulating materials for hazardous live parts. Note especially:

- | | | |
|--------------------|--------------------------------------|------------|
| 1) Insulation Tape | 3) Spacers | 5) Barrier |
| 2) PVC tubing | 4) Insulation sheets for transistors | |

6. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.) wrap ends of wires securely about the terminals before soldering.

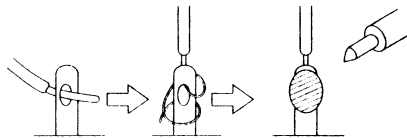


Fig.1

7. Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.)

8. Check that replaced wires do not contact sharp edged or pointed parts.

9. When a power cord has been replaced, check that 10-15 kg of force in any direction will not loosen it.

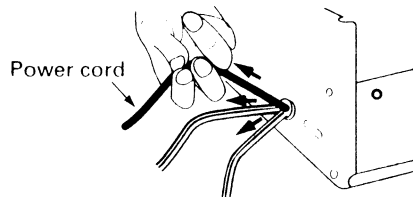


Fig.2

10. Also check areas surrounding repaired locations.

11. Products using cathode ray tubes (CRTs)

In regard to such products, the cathode ray tubes themselves, the high voltage circuits, and related circuits are specified for compliance with recognized codes pertaining to X-ray emission. Consequently, when servicing these products, replace the cathode ray tubes and other parts with only the specified parts. Under no circumstances attempt to modify these circuits. Unauthorized modification can increase the high voltage value and cause X-ray emission from the cathode ray tube.

12. Crimp type wire connector

In such cases as when replacing the power transformer in sets where the connections between the power cord and power transformer primary lead wires are performed using crimp type connectors, if replacing the connectors is unavoidable, in order to prevent safety hazards, perform carefully and precisely according to the following steps.

1) **Connector part number :** E03830-001

2) **Required tool :** Connector crimping tool of the proper type which will not damage insulated parts.

3) **Replacement procedure**

(1) Remove the old connector by cutting the wires at a point close to the connector.

Important : Do not reuse a connector (discard it).

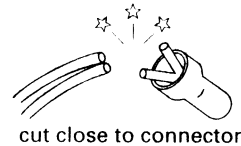


Fig.3

(2) Strip about 15 mm of the insulation from the ends of the wires. If the wires are stranded, twist the strands to avoid frayed conductors.



Fig.4

(3) Align the lengths of the wires to be connected. Insert the wires fully into the connector.

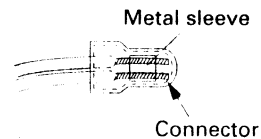


Fig.5

(4) As shown in Fig.6, use the crimping tool to crimp the metal sleeve at the center position. Be sure to crimp fully to the complete closure of the tool.

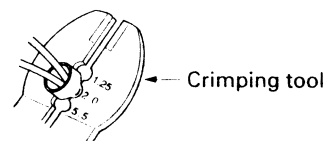


Fig.6

(5) Check the four points noted in Fig.7.

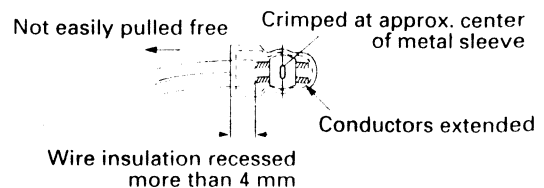


Fig.7

● Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions. Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

1. Insulation resistance test

Confirm the specified insulation resistance or greater between power cord plug prongs and externally exposed parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table 1 below.

2. Dielectric strength test

Confirm specified dielectric strength or greater between power cord plug prongs and exposed accessible parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table 1 below.

3. Clearance distance

When replacing primary circuit components, confirm specified clearance distance (d), (d') between soldered terminals, and between terminals and surrounding metallic parts. See table 1 below.

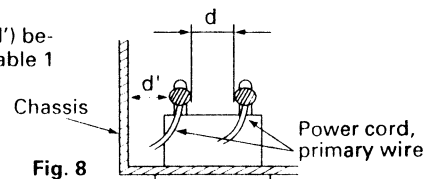


Fig. 8

4. Leakage current test

Confirm specified or lower leakage current between earth ground/power cord plug prongs and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.).

Measuring Method : (Power ON)

Insert load Z between earth ground/power cord plug prongs and externally exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z. See figure 9 and following table 2.

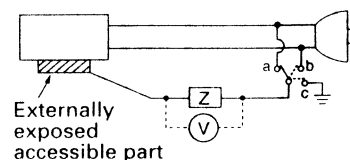


Fig. 9

5. Grounding (Class I model only)

Confirm specified or lower grounding impedance between earth pin in AC inlet and externally exposed accessible parts (Video in, Video out, Audio in, Audio out or Fixing screw etc.).

Measuring Method:

Connect milli ohm meter between earth pin in AC inlet and exposed accessible parts. See figure 10 and grounding specifications.

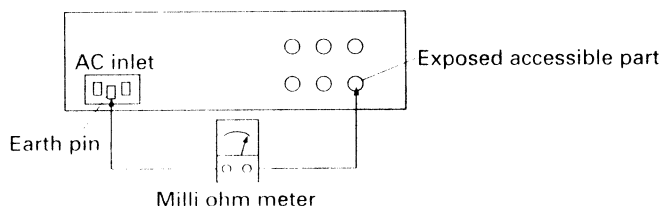


Fig. 10

Grounding Specifications

Region	Grounding Impedance (Z)
USA & Canada	$Z \leq 0.1 \text{ ohm}$
Europe & Australia	$Z \leq 0.5 \text{ ohm}$

AC Line Voltage	Region	Insulation Resistance (R)	Dielectric Strength	Clearance Distance (d), (d')
100 V	Japan	$R \geq 1 \text{ M}\Omega/500 \text{ V DC}$	AC 1 kV 1 minute	$d, d' \geq 3 \text{ mm}$
100 to 240 V			AC 1.5 kV 1 minute	$d, d' \geq 4 \text{ mm}$
110 to 130 V	USA & Canada	$1 \text{ M}\Omega \leq R \leq 12 \text{ M}\Omega/500 \text{ V DC}$	AC 1 kV 1 minute	$d, d' \geq 3.2 \text{ mm}$
110 to 130 V	Europe & Australia	$R \geq 10 \text{ M}\Omega/500 \text{ V DC}$	AC 3 kV 1 minute (Class 2)	$d \geq 4 \text{ mm}$
200 to 240 V			AC 1.5 kV 1 minute (Class 1)	$d' \geq 8 \text{ mm (Power cord)}$ $d' \geq 6 \text{ mm (Primary wire)}$

Table 1 Specifications for each region

AC Line Voltage	Region	Load Z	Leakage Current (i)	a, b, c
100 V	Japan	$1 \text{ k}\Omega$	$i \leq 1 \text{ mA rms}$	Exposed accessible parts
110 to 130 V	USA & Canada	$0.15 \mu\text{F}$ and $1.5 \text{ k}\Omega$	$i \leq 0.5 \text{ mA rms}$	Exposed accessible parts
110 to 130 V	Europe & Australia	$2 \text{ k}\Omega$	$i \leq 0.7 \text{ mA peak}$ $i \leq 2 \text{ mA dc}$	Antenna earth terminals
220 to 240 V		$50 \text{ k}\Omega$	$i \leq 0.7 \text{ mA peak}$ $i \leq 2 \text{ mA dc}$	Other terminals

Table 2 Leakage current specifications for each region

Note: These tables are unofficial and for reference only. Be sure to confirm the precise values for your particular country and locality.

INSTRUCTIONS

(This instruction is for the GR-DVL9500EK
/GR-DVL9600EK)

2 EN

Dear Customer,

Thank you for purchasing this digital video camera. Before use, please read the safety information and precautions contained in the following pages to ensure safe use of this product.

Using This Instruction Manual

- All major sections and subsections are listed in the Table Of Contents (2 of cover page).
- Notes appear after most subsections. Be sure to read these as well.
- Basic and advanced features/operation are separated for easier reference.

It is recommended that you . . .

refer to the Index (2 of pgs. 72 - 76) and familiarize yourself with button locations, etc., before use.
Read thoroughly the Safety Precautions. They contain extremely important information regarding the safe use of this product.

You are recommended to carefully read the cautions on pages 77 and 78 before use.

SAFETY PRECAUTIONS

IMPORTANT

Connection to the mains supply in the United Kingdom.

DO NOT cut off the mains plug from this equipment. If the plug fitted is not suitable for the power points in your home or the cable is too short to reach a power point, then obtain an appropriate safety approved extension lead or consult your dealer.

BE SURE to replace the fuse only with an identical approved type, as originally fitted, and to replace the fuse cover.

If nonetheless the mains plug is cut off be sure to remove the fuse and dispose of the plug immediately, to avoid possible shock hazard by inadvertent connection to the mains supply.

If this product is not supplied fitted with a mains plug then follow the instructions given below:

DO NOT make any connection to the Larger Terminal coded E or Green.

The wires in the mains lead are coloured in accordance with the following code:

Blue to N (Neutral) or Black
Brown to L (Live) or Red

If these colours do not correspond with the terminal identifications of your plug, connect as follows:

Blue wire to terminal coded N (Neutral) or coloured black.

Brown wire to terminal coded L (Live) or coloured Red.

If in doubt — consult a competent electrician.

WARNING:

**TO PREVENT FIRE OR SHOCK
HAZARD, DO NOT EXPOSE
THIS UNIT TO RAIN OR
MOISTURE.**

Warning on lithium cell battery (for remote control unit)

The battery used in this device may present a fire or chemical burn hazard if mistreated. Do not recharge, disassemble, heat above 100°C or incinerate.

Replace the battery with Maxell, Panasonic (Matsushita Electric), Sanyo or Sony CR2025; use of another battery may present a risk of fire or explosion.

- Dispose of used battery promptly.
- Keep away from children.
- Do not disassemble and do not dispose of in fire.

CAUTIONS:

- To prevent shock, do not open the cabinet. No user serviceable parts inside. Refer servicing to qualified personnel.
- When you are not using the AC Power Adapter/Charger for a long period of time, it is recommended that you disconnect the power cord from AC outlet.

NOTES:

- The rating plate (serial number plate) and safety caution are on the bottom and/or the back of the main unit.
- The rating plate (serial number plate) of the AC Power Adapter/Charger is on its bottom.

This camcorder is designed to be used with PAL-type colour television signals. It cannot be used for playback with a television of a different standard. However, live recording and LCD monitor viewfinder playback are possible anywhere. Use the BN-V607U/V615U battery packs and, to recharge them, the provided multi-voltage AC Power Adapter/Charger. (An appropriate conversion adapter may be necessary to accommodate different designs of AC outlets in different countries.)

This unit is produced to comply with Standard IEC Publ. 65.

SOME DO'S AND DON'TS ON THE SAFE USE OF EQUIPMENT

This equipment has been designed and manufactured to meet international safety standards but, like any electrical equipment, care must be taken if you are to obtain the best results and safety is to be assured.

- DO** read the operating instructions before you attempt to use the equipment.
- DO** ensure that all electrical connections (including the mains plug, extension leads and interconnections between pieces of equipment) are properly made and in accordance with the manufacturer's instructions. Switch off and withdraw the mains plug when making or changing connections. consult your dealer if you are ever in doubt about the installation, operation or safety of your equipment.
- DO** be careful with glass panels or doors on equipment.
- DON'T** continue to operate the equipment if you are in any doubt about it working normally, or if it is damaged in any way — switch off, withdraw the mains plug and consult your dealer.
- DON'T** remove any fixed cover as this may expose dangerous voltages.
- DON'T** leave equipment switched on when it is unattended unless it is specifically stated that it is designed for unattended operation or has a standby mode. Switch off using the switch on the equipment and make sure that your family knows how to do this. Special arrangements may need to be made for infirm or handicapped people.
- DON'T** use equipment such as personal stereos or radios so that you are distracted from the requirements of road safety. It is illegal to watch television whilst driving.
- DON'T** listen to headphones at high volume, as such use can permanently damage your hearing.
- DON'T** obstruct the ventilation of the equipment, for example with curtains or soft furnishings. Overheating will cause damage and shorten the life of the equipment.
- DON'T** use makeshift stands and NEVER fix legs with wood screws — to ensure complete safety always fit the manufacturer's approved stand or legs with the fixings provided according to the instructions.
- DON'T** allow electrical equipment to be exposed to rain or moisture.

ABOVE ALL

- NEVER let anyone especially children push anything into holes, slots or any other opening in the case — this could result in a fatal electrical shock;
- NEVER guess or take chances with electrical equipment of any kind — it is better to be safe than sorry!

EN 3

SAFETY PRECAUTIONS

Do not point the lens or the viewfinder directly into the sun. This can cause eye injuries, as well as lead to the malfunctioning of internal circuitry. There is also a risk of fire or electric shock.

CAUTION! The following notes concern possible physical damage to the camcorder and to the user.

When carrying, be sure to always securely attach and use the provided shoulder strap. Carrying or holding the camcorder by the viewfinder and/or the LCD monitor can result in dropping the unit, or in a malfunction.

Take care not to get your finger caught in the cassette cover. Do not let children operate the camcorder, as they are particularly susceptible to this type of injury.

Do not use a tripod on unsteady or unlevel surfaces. It could tip over, causing serious damage to the camcorder.

CAUTION! Connecting cables (Audio/Video, S-Video, Editing, DC) to the camcorder and leaving the unit on top of the TV is not recommended, as tripping on the cables will cause the camcorder to fall, resulting in damage.

Mini **DV** PAL

- This camcorder is designed exclusively for the digital video cassette. Only cassettes marked **Mini DV** can be used with this unit.

Before recording an important scene...

- ... make sure you only use cassettes with the Mini DV mark **Mini DV**.
- ... remember that this camcorder is not compatible with other digital video formats.
- ... remember that this camcorder is intended for private consumer use only. Any commercial use without proper permission is prohibited. (Even if you record an event such as a show, performance or exhibition for personal enjoyment, it is strongly recommended that you obtain permission beforehand.)

PROVIDED ACCESSORIES

- AC Power Adapter/Charger AA-V68EK
- MiniDV Cassette Tape 30 Min (DVM-30) M-DV30ME
- Remote Control Unit RM-V711U
- Battery Pack BN-V607U
- Shoulder Strap
- Cable Adapter
- S-Video Cable
- Editing Cable
- DC Cord
- Audio/Video (A/V) Cable
- iLIP-PC Connection Cable
- Core Filter (for microphone and headphone cables) x 2
- DV Cable (GR-DVL9600 only)
- CD-ROM
The CD ROM contains the following 3 software programmes:
iLIP Video Capture
iLIP Video Producer
Presto!
Mr. Photo/Photo-Album/ImageFolio
- Lithium Battery CR2025 (for remote control unit)
- Cleaning Cloth

ABOUT DV

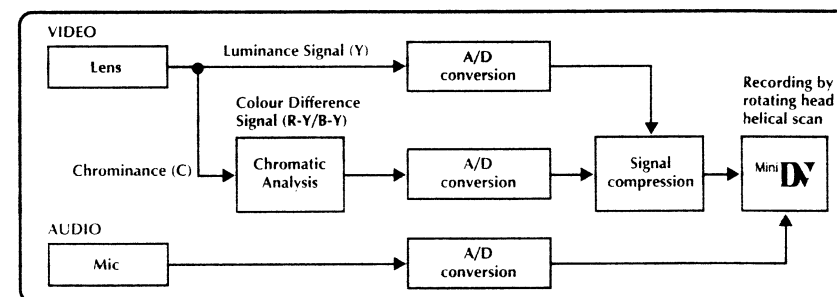
The digital camcorder converts incoming audio and video signals into digital form for recording.

A video signal is composed of a luminance signal (Y) and colour signals (R-Y and B-Y). These signals are identified and recorded digitally (Digital Component Recording). The A/D (Analogue to Digital) converter samples the Y signal at 13.5 MHz, and R-Y and B-Y at 6.75 MHz, and changes them to an 8-bit quantum signal.

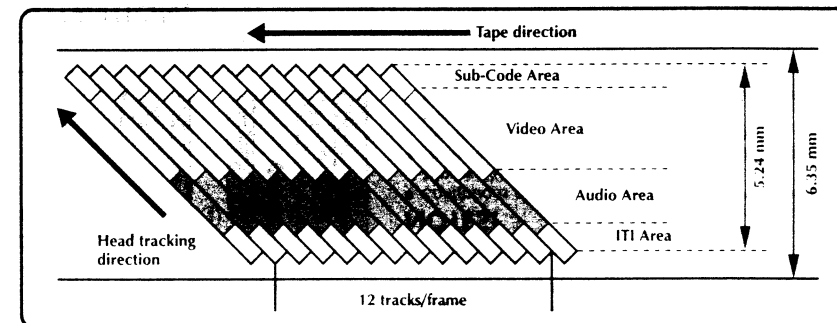
Sound sampled at 48 kHz is changed to a 16-bit quantum signal, and sound sampled at 32 kHz is converted to a 12-bit signal.

NOTE:

The data recorded on a tape is digital, but the output of this camcorder is analogue.



This camcorder separates the data into blocks, writing one block of each data type on each track of the tape.



① Sub-Code Area

The Time Code and Date/Time data are written here, separate from the video data. This enables you to display the date and time during playback, even if they weren't displayed while recording.

② Video Area

The digital video signal is recorded here.

③ Audio Area

The digital audio signal is recorded here.

④ ITI (Insert and Tracking Information) Area

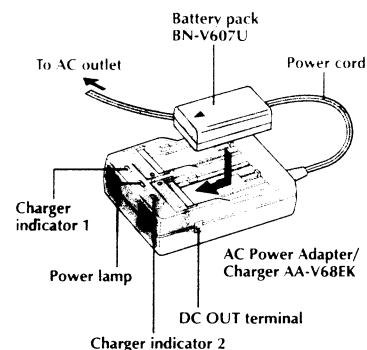
Insert editing and post-recording editing tracking signals are recorded here.

Power

This camcorder's 2-way power supply system lets you choose the most appropriate source of power.

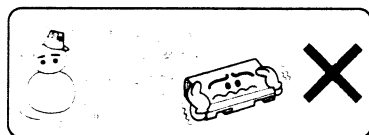
NOTES:

- No function is available without power supply.
- Use only specified power supply.
- Do not use provided power supply units with other equipment.



NOTES:

- Perform charging where the temperature is between 10°C and 30°C. 20°C to 25°C is the ideal temperature range for charging. If the environment is too cold, charging may be incomplete.
- Charging times noted above are for fully discharged battery pack.
- Charging time varies according to the ambient temperature and the status of the battery pack.
- To avoid interference with reception, do not use the AC Power Adapter/Charger near a radio.
- If you connect the camcorder's DC cord to the adapter during battery charging, power is supplied to the camcorder and charging stops.
- Since the AC Power Adapter/Charger processes electricity internally, it becomes warm during use. Be sure to use it only in well-ventilated areas.
- When charging the battery pack for the first time or after a long storage period, the charger indicator may not light. In this case, remove the battery pack from the AC Power Adapter/Charger, then try charging again.
- If the battery operation time remains extremely short even after having been fully charged, the battery is worn out and needs to be replaced. Please purchase a new one.



Lithium-ion is vulnerable in colder temperatures.



CHARGING THE BATTERY PACK

1 SUPPLY POWER TO CHARGER

Make sure you unplug the camcorder's DC cord from the AC Power Adapter/Charger. Plug the AC Adapter/Charger's power cord into an AC outlet. The power lamp comes on.

2 ATTACH BATTERY/BATTERIES

Attach while making sure the $\oplus$ $\ominus$ marks are facing down and aligned with the corresponding marks on the AC Power Adapter/Charger.

- The Charger Indicator 1 or 2 begins blinking to indicate charging has started.

3 CONFIRM STATUS

When the charger indicator stops blinking but stays lit, charging is finished.

- If two batteries are attached to the charger, they will be charged in the order that they were attached.

4 DETACH BATTERY/BATTERIES

Slide the battery or batteries in the opposite direction of the arrow and lift off. Remember to unplug the AC Adapter/Charger's power cord from an AC outlet.

Charging time

Battery pack	ONE	TWO
BN-V607U	approx. 1 hr. 30 min.	approx. 3 hrs.
BN-V615U	approx. 3 hrs.	approx. 6 hrs.

About Batteries

DANGER! Do not attempt to take the batteries apart, or expose them to flame or excessive heat, as it may cause a fire or explosion.

WARNING! Do not allow the battery or its terminals to come in contact with metals, as this can result in a short circuit and possibly start a fire.

The Benefits Of Lithium-Ion Batteries

Lithium-ion battery packs are small but have a large power capacity. However, when one is exposed to cold temperatures (below 10°C), its usage time becomes shorter and it may cease to function. If this happens, place the battery pack in your pocket or other warm, protected place for a short time, then re-attach it to the camcorder. As long as the battery pack itself is not cold, it should not affect performance.

(If you're using a heating pad, make sure the battery pack does not come in direct contact with it.)

USING THE BATTERY PACK

1 TILT VIEWFINDER UPWARD

2 ATTACH BATTERY PACK

With the arrow on the battery pack pointing downward, push the battery pack slightly against the battery pack mount $\odot$, then slide down the battery pack to attach it $\odot$.

- If the battery pack is attached with its $\oplus$ $\ominus$ mark set in the wrong direction, a malfunction may occur.

To Detach The Battery Pack...

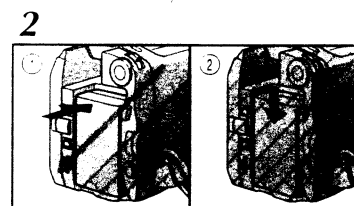
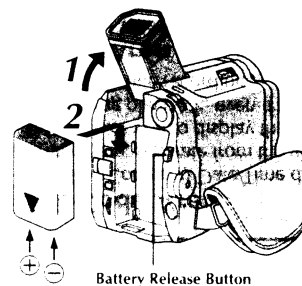
... tilt the viewfinder upward and slide the battery pack up slightly while pressing the Battery Release Button to detach it.

NOTES:

- Continuous shooting is possible when the temperature is approx. 20°C.
- However, continuous shooting capability is reduced significantly under the following conditions:
 - The temperature is below 10°C.
 - Zoom or Record-Standby mode is engaged repeatedly.
 - The LCD monitor is used repeatedly.
- Before extended use, it is recommended that you prepare enough battery packs to cover 3 times the planned shooting time.

Approximate recording time

Battery pack	LCD monitor on/Viewfinder off	LCD monitor off/Viewfinder on	LCD monitor on/Viewfinder on
BN-V607U	50 min.	65 min.	45 min.
BN-V615U	100 min.	130 min.	90 min.
BN-V856U	6 hrs.	7 hrs. 30 min.	5 hrs. 30 min.



ATTENTION:

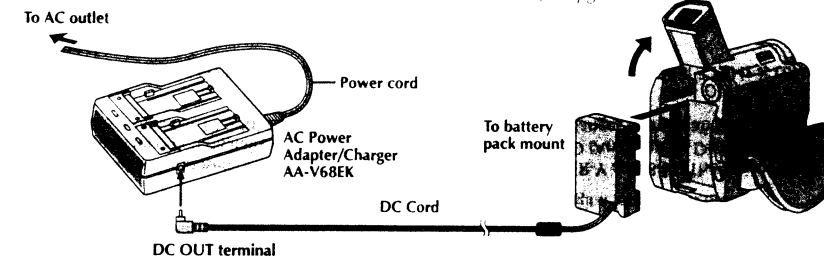
Before detaching the power source, make sure that the camcorder's power is turned off. Failure to do so can result in a camcorder malfunction.

INFORMATION:

VU-V856KIT is a set composed of the BN-V856U battery pack and AA-V80EK AC Power Adapter/Charger. Also read thoroughly the VU-V856KIT's instruction manuals. It is impossible to charge the BN-V856U battery pack using the provided AC Power Adapter/Charger. Use the optional AA-V80EK AC Power Adapter/Charger.

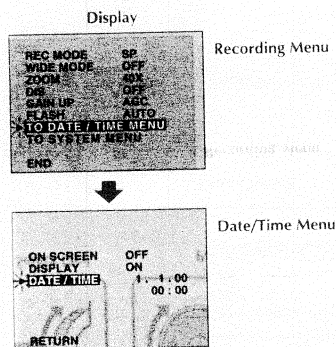
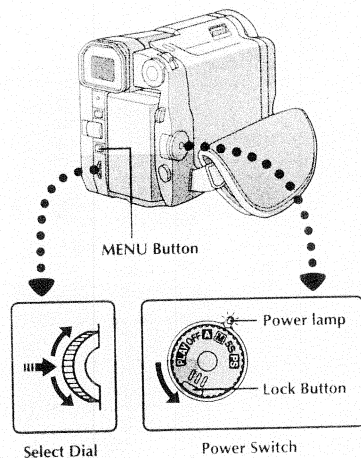
USING AC POWER

Use the AC Power Adapter/Charger (connect as shown in the illustration).



NOTES:

- The provided AC Power Adapter/Charger features automatic voltage selection in the AC range from 110 V to 240 V.
- For other notes, see pg. 6.



Date/Time Settings

Date and time will automatically be recorded on tape at all times. It is your choice to display it or not during playback (pg. 47).

1 SELECT OPERATION MODE

Set the Power Switch to "M", "SS" or "PS" while pressing down the Lock Button located on the switch, and open the LCD monitor fully or pull out the viewfinder fully.

- The power lamp comes on and the camcorder is turned on.

2 ACCESS RECORDING MENU

Press MENU. The Recording Menu appears.

3 ACCESS DATE/TIME MENU

Move the highlight bar to "TO DATE/TIME MENU" by rotating the Select Dial. Press the Select Dial and the Date/Time Menu appears.

4 INPUT DATE AND TIME

Move the highlight bar to "DATE/TIME" by rotating the Select Dial. Press the Select Dial and "day" is highlighted and begins blinking. Rotating the Select Dial, input the day. Press the Select Dial. Repeat the procedure to input the month, year, hour and minute.

- Press the Select Dial twice when the highlight bar is set to "RETURN" to exit.

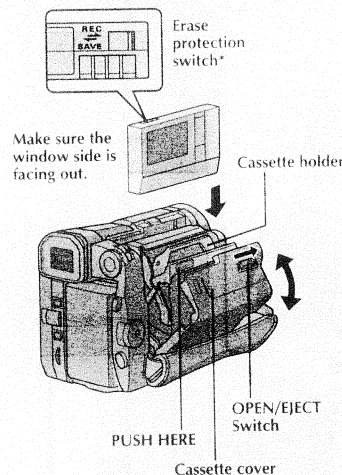
Regarding Built-in Clock's Rechargeable Lithium Battery

To store the date/time in memory, a clock's rechargeable lithium battery is integrated in the camcorder. While the camcorder is connected to an AC outlet using the AC Power Adapter/Charger, or while the battery pack attached to the camcorder continues to supply power to the camcorder, the clock's rechargeable lithium battery is always charged. However, if the camcorder is not used for approx. 3 months, the clock lithium battery will become discharged and the date/time stored in memory will be lost. When this occurs, first connect the camcorder to an AC outlet using the AC Power Adapter/Charger etc. for over 24 hours to charge the clock's rechargeable lithium battery. Then perform the date/time setting before using the camcorder.

It is also possible to use the camcorder without the date/time setting.

NOTE:

Even if you select "DATE/TIME", if the parameter is not highlighted the camcorder's internal clock continues to operate. Once you move the highlight bar to the first date/time parameter (day), the clock stops. When you finish setting the minute and press the Select Dial, the date and time begin operation from the date and time you just set.



* To Protect Valuable Recordings . . .

... slide the erase protection switch on the back of the tape in the direction of "SAVE". This prevents this tape from being recorded over. If you decide later that you do want to record on this tape, slide the switch back to "REC" before loading the tape.

NOTES:

- It takes a few seconds for the cassette holder to open. Do not apply force.
- If you wait a few seconds and the cassette holder does not open, close the cassette cover and try again. If the cassette holder still does not open, turn the camcorder off then on again.
- If the tape does not load properly, open the cassette cover fully and remove the cassette. A few minutes later, insert it again.
- When the camcorder is suddenly moved from a cold place to a warm environment, wait a short time before opening the cover.
- Closing the cassette cover before the cassette holder comes out may cause damage to the camcorder.
- Even when the camcorder is switched off, a cassette can be loaded or unloaded. After the cassette holder is closed with the camcorder switched off, however, it may not recede. It is recommended to turn the power on before loading or unloading.
- When resuming recording, once you open the cassette cover a blank portion will be recorded on the tape or a previously recorded scene will be erased (recorded over) regardless of whether the cassette holder came out or not. See page 19 for information about recording from the middle of a tape.

Loading/Unloading A Cassette

The camcorder needs to be powered up to load or eject a cassette.

1 OPEN CASSETTE COVER

Slide OPEN/EJECT in the direction of the arrow then swing the cover open until it locks. The holder opens automatically.

- Do not touch internal components.

2 INSERT/REMOVE TAPE

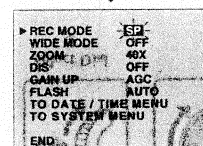
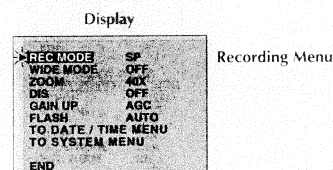
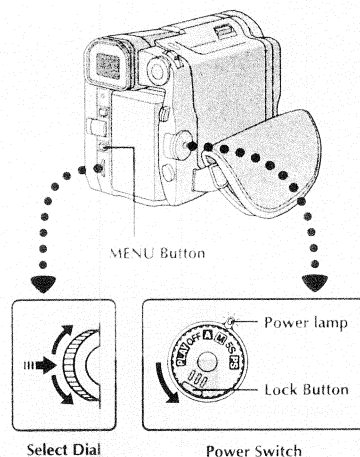
Insert or remove a tape and press "PUSH HERE" to close the cassette holder.

- Once the cassette holder is closed, it recedes automatically. Wait until it recedes completely before closing the cassette cover.
- When the battery's charge is low, you may not be able to close the cover. Do not apply force. Replace the battery with a fully charged one before continuing.

3 CLOSE CASSETTE COVER

Approximate recording time

Tape	Recording mode	
	SP	LP
DVM-30	30 min.	45 min.
DVM-60	60 min.	90 min.



Recording Mode Setting

Set depending on your preference.

1 SELECT OPERATION MODE

Set the Power Switch to "M", "5S" or "PS" while pressing down the Lock Button located on the switch, and open the LCD monitor fully or pull out the viewfinder fully.

- The power lamp comes on and the camcorder is turned on.

2 ACCESS RECORDING MENU

Press MENU. The Recording Menu appears.

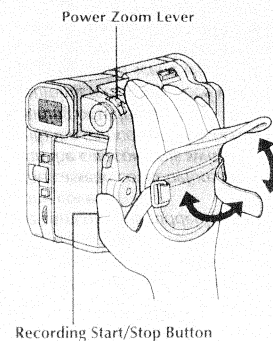
3 SET RECORDING MODE

First move the highlight bar to "REC MODE" by rotating the Select Dial. Press the Select Dial and the parameter "SP" or "LP" is highlighted. Select "SP" or "LP" by rotating the Select Dial. Press the Select Dial twice to exit from the Recording Menu.

- Insert Editing or Audio Dubbing is impossible on a tape recorded in the LP mode.
- "LP" (Long Play) is more economical, providing 1.5 times the recording time.

NOTES:

- If the recording mode is switched during recording, the playback picture will be blurred at the switching point.
- It is recommended that tapes recorded in the LP mode on this camcorder be played back on this camcorder.
- During playback of a tape recorded on another camcorder, blocks of noise may appear or there may be momentary pauses in the sound.



Grip Adjustment

1 EXPAND LOOP

Separate the Velcro strip.

2 INSERT HAND

Pass your right hand through the loop and grasp the grip.

3 ADJUST STRAP LENGTH

Adjust so that your thumb and fingers can easily operate the Recording Start/Stop Button and Power Zoom Lever. Retasten the Velcro strip.

Viewfinder Adjustment

1 SELECT OPERATION MODE

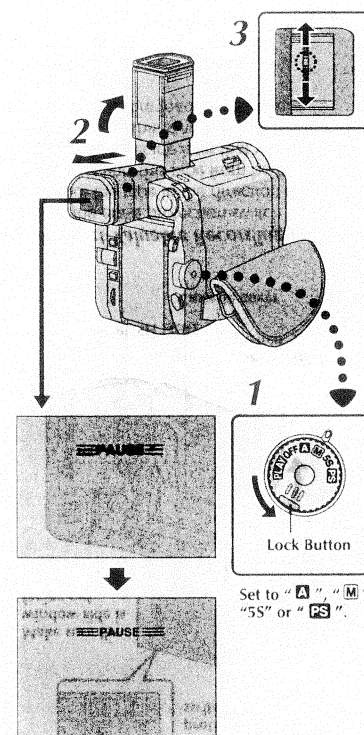
Set the Power Switch to "A", "M", "5S" or "PS" while pressing down the Lock Button located on the switch.

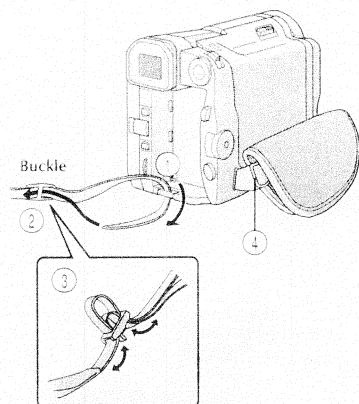
2 POSITION VIEWFINDER

Pull out the viewfinder fully and adjust it manually for best viewability (see illustration on left).

3 ADJUST DIOPTR

Turn the Diopter Adjustment Control until the indications in the viewfinder are clearly focused.





Shoulder Strap Attachment

1 ATTACH STRAP

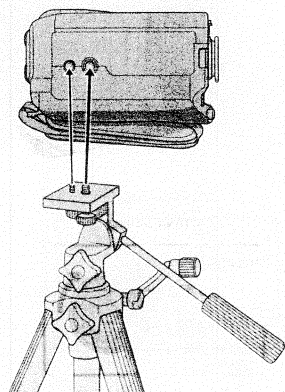
Make sure the battery pack or DC cord is removed. As shown in the illustration on left, thread the strap through the low eyelet ①, then fold it back and thread it through the buckle ②.

2 ADJUST LENGTH

Adjust as shown in the illustration on left ③.

3 ATTACH TO THE OTHER EYELET

Repeat step 1 to attach the other end of the strap to the other eyelet ④, making sure the strap is not twisted.



Tripod Mounting

1 ALIGN AND TIGHTEN

Align the screw and camera direction stud on the tripod with the camera's mounting socket and stud hole. Then tighten the screw.

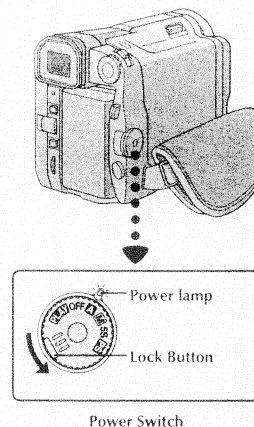
CAUTION:

When using a tripod, be sure to open and extend its legs fully to stabilize the camcorder. To prevent damage to the unit caused by falling over, do not use a small-sized tripod.

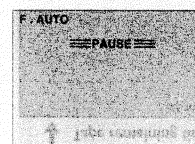
Operation Mode

Tuning the Power Switch allows you to choose the appropriate operation mode among the following modes: Full Auto mode (A), Manual mode (M), 5 second recording mode (SS), Progressive mode (PS) and Playback mode (PLAY).

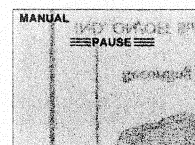
To turn on the camcorder, first set the Power Switch to any operation mode except "OFF", then pull out the viewfinder fully or open the LCD monitor. When setting the Power Switch from "OFF" to any other position, press and hold the lock button located on the switch.



According to the Power Switch position you have selected, "F.AUTO" or "MANUAL" appears in the upper left corner.



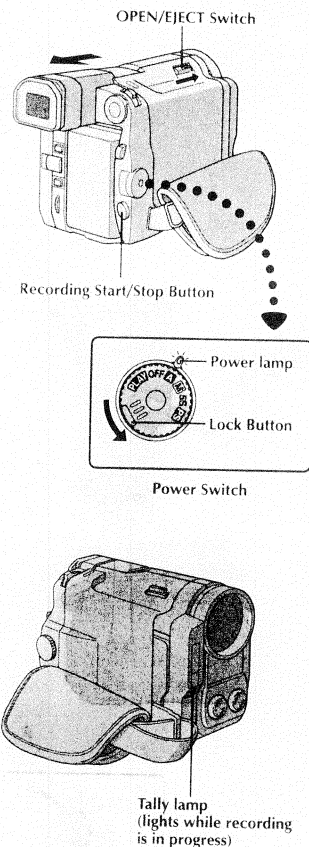
When set to "A"



When set to "M", "SS" or "PS" (When set to "SS", "MANUAL" blinks.)

If you have selected **PLAY**, then these indications do not appear.

Power Switch Position	Function
Full Auto: A	Allows you to record using NO special effects or manual adjustments. Suitable for standard recording.
Manual: M	Allows you to set various recording functions using the Menus. If you want more creative capabilities than Full Auto recording, try this mode.
5 second recording mode: SS	Allows you to record in 5-second clips to keep the action moving. Enables shooting in Manual mode. However, Focus and Exposure are the same as in the Full Auto mode, and it is not possible to change menu settings using the Select Dial.
Progressive mode: PS	Allows you to record moving images (successive jitter-free still images) with superior quality. A high-resolution still image can also be processed on a personal computer or can be printed out.
Playback: PLAY	Allows you to play back a recording. pg. 43 - 51.
OFF	Allows you to switch off the camcorder. After setting to this position, Manual Focus and Exposure Control are automatically reset to "AUTO".

**NOTE:**

You should already have performed the procedures listed below. If not, do so before continuing.

- Power (pg. 6)
- Recording Mode Setting (pg. 10)
- Grip Adjustment (pg. 11)
- Viewfinder Adjustment (pg. 11)

1 LOAD A CASSETTE

Slide OPEN/EJECT in the direction of the arrow then swing the cover open until it locks. The holder opens automatically.

Insert a tape and press "PUSH HERE" to close the cassette holder.

- Once the cassette holder is closed, it recedes automatically. Wait until it recedes completely before closing the cassette cover.

Shooting While Watching The Viewfinder**2 ENTER RECORD-STANDBY MODE**

Make sure the LCD monitor is closed and locked. Set the Power Switch to the camera position ("A", "M", "5S" or "PS") while pressing down the Lock Button located on the switch, then pull out the viewfinder fully.

- The lens cover opens, the power lamp lights and the camcorder enters the Record-Standby mode.
- The scene you are aimed at appears on the viewfinder screen, with the word "PAUSE" superimposed upon it.

3 START SHOOTING

Press the Recording Start/Stop Button.

- "REC" appears in the viewfinder while recording is in progress.

4 STOP RECORDING

Press the Recording Start/Stop Button again to stop recording.

- The camcorder re-enters the Record-Standby mode.

NOTES:

- The image will not appear simultaneously in the LCD monitor and the viewfinder. No image appears on the LCD monitor when the viewfinder is pulled out. It is not possible to shoot using both LCD monitor and viewfinder. However, during Intertape Shooting (pg. 17) the image appears simultaneously in the LCD monitor and the viewfinder.
- The cassette holder cannot be opened unless a power supply is attached.
- There may be a delay after you open the cassette cover until the holder opens. Do not use force.
- The tape remaining time is only displayed in the viewfinder as shown.
- The indicated tape remaining time is approximate.
- The time required to calculate and to display the remaining tape length, and the accuracy of the calculation, may vary according to the type of tape used.
- "TAPE END" appears when the tape reaches its end, and the power goes off automatically if left in this condition for 5 minutes. "TAPE END" also appears when a cassette whose tape is already at its end is loaded.
- If the Record-Standby mode continues for 5 minutes, the camcorder's power shuts off automatically. To turn the camcorder on again, push back and pull out the viewfinder again or close and re-open the LCD monitor.
- When a blank portion is left between recorded scenes on the tape, the time code is interrupted and errors may occur when editing the tape. Continue recording from where you stop so that there are no gaps by following "Recording from the middle of a tape" (pg. 19).
- During recording, sound is not heard from the speaker. If you want to hear the sound, connect optional headphones to the headphones connector. The sound volume at this point is the same as the level it was adjusted during playback.
- To turn the tally lamp off during recording, refer to pgs. 28 and 30.

LCD Monitor/Viewfinder Indications

You can make the LCD monitor/Viewfinder indications appear/disappear.

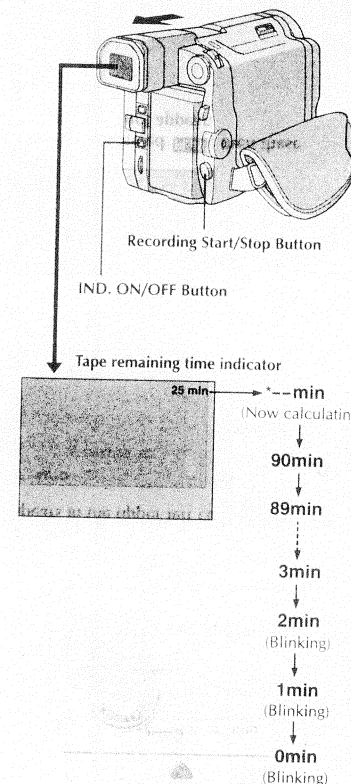
1 PRESS IND. ON/OFF BUTTON

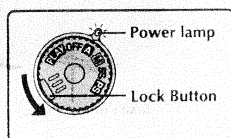
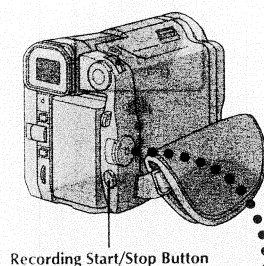
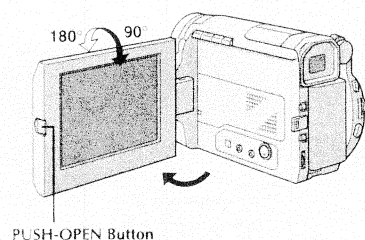
To turn off the indications, press IND. ON/OFF for more than 1 second.

Press again for more than 1 second to make the indications reappear.

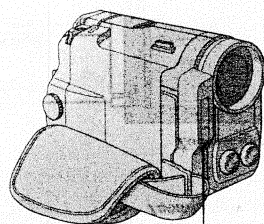
NOTE:

It is impossible to make the tape running indicator "▶▶▶" and warnings etc. disappear from the LCD monitor or the viewfinder. For the indications that can be removed, pg. 74 and 75.





Power Switch

Tally lamp
(lights while recording
is in progress)

Shooting While Watching The LCD Monitor

Before the following steps, perform step 1 (pg. 14).

2 ENTER RECORD-STANDBY MODE

Make sure the viewfinder is fully tilted downward and pushed back in. Set the Power Switch to the camera position ("A", "M", "5S" or "CS") while pressing down the Lock Button located on the switch. Press **PUSH-OPEN** and open the LCD monitor fully.

- The lens cover opens, the power lamp lights and the camcorder enters the Record-Standby mode.
- The scene you are aimed at appears in the LCD monitor, with the word "PAUSE" superimposed upon it.

3 START SHOOTING

Tilt the LCD monitor upward/downward for best viewability (pg. 17) and press the Recording Start/Stop Button.

- "REC" appears in the LCD monitor while recording is in progress.

4 STOP RECORDING

Press the Recording Start/Stop Button again to stop recording.

- The camcorder re-enters the Record-Standby mode.

NOTES:

- When you use the LCD monitor outdoors in direct sunlight, the LCD monitor may be difficult to see. If this happens, we recommend that you use the viewfinder (pg. 14).
- To turn the tally lamp off during recording, refer to pgs. 28 and 30.
- For other notes, refer to pg. 15.

Journalistic Shooting

In some situations different angles of shooting may be required for more dramatic results.

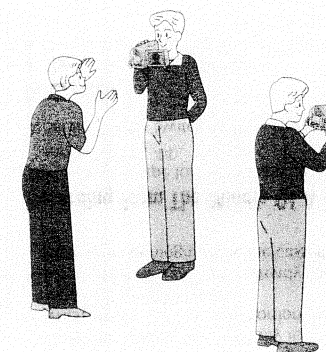
1 OPEN LCD MONITOR

Make sure the LCD monitor is fully open.

2 TILT LCD MONITOR

Tilt the LCD monitor in the most convenient direction.

- The LCD monitor can rotate almost full circle (270°: 90° downward, 180° upward).



Self-Recording

Interface Shooting

A person you shoot can view himself/herself in the LCD monitor, and you can even shoot yourself while viewing your own image in the LCD monitor.

1 TILT LCD MONITOR UPWARD

Open the LCD monitor and tilt it upward to 180 degrees so that it faces forward.

- The monitor image is inverted vertically. If the viewfinder is pulled out at that time, it will also switch on.

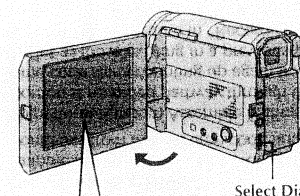
2 START RECORDING

Point the lens toward the subject (yourself when self-recording) and start recording.

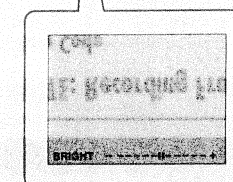
- During Interface Shooting, the "Tape Running" indicator and warning indications (pg. 75) are the only ones that are shown; they appear reversed in the display as they would when viewing a mirror, but are not reversed in the recording.

NOTE:

The tape remaining indicator does not appear during interface shooting. However, when the remaining time reaches 2 minutes, the indicator appears showing the remaining time: *--- (blinking) *--- (blinking) *--- (blinking)



Select Dial



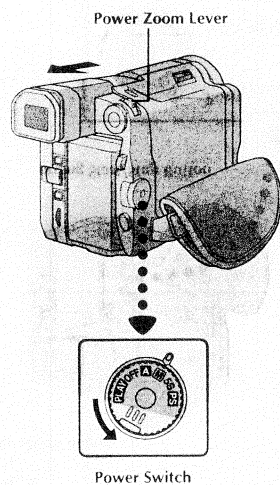
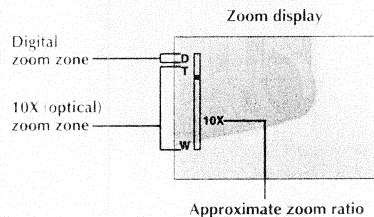
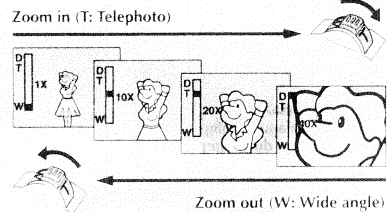
Brightness Control

You can adjust the brightness of the display by rotating the Select Dial.

1 ADJUST BRIGHTNESS

Rotate the Select Dial until the brightness indicator moves and the display reaches its appropriate brightness.

- The brightness indication appears on the display.
- If the viewfinder is pulled out, it is also possible to adjust its brightness.

**FEATURE: Zooming****PURPOSE:**

To produce the zoom in/out effect, or an instantaneous change in image magnification.

OPERATION:**Zoom In**

Push the Power Zoom Lever towards "T".

Zoom Out

Push the Power Zoom Lever towards "W".

- The harder you push the Power Zoom Lever, the quicker the zoom action.

NOTES:

- Focusing may become unstable during Zooming. In this case, set the zoom while in Record-Standby, lock the focus by using the manual focus (pg. 37), then zoom in or out in Record mode.
- In Full Auto mode (when the Power Switch is set to "A"), zoom magnification of up to 40X is possible. In Manual mode (when the Power Switch is set to "M", "5S" or "PS"), zooming is possible to a maximum of 200X or can be switched to 10X magnification offered by optical zoom.
- Zoom magnification of over 10X is done through Digital image processing, and is therefore called Digital Zoom.
- During Digital zoom, the quality of image may suffer.
- Digital zoom cannot be used while functions done through Digital image processing (Digital Image Stabiliser (DIS), pg. 29, High Speed Recording, pg. 42, Picture Wipe/Dissolve function, pg. 32, Snapshot, pg. 25, Video Echo, pg. 35 etc.) are activated.
- Macro shooting (as close as approx. 1.5 cm to the subject) is possible when the Power Zoom Lever is set all the way to "W". Also see "TELE MACRO" in the System Menu on page 30.

NOTE: Recording From The Middle Of A Tape**Time Code**

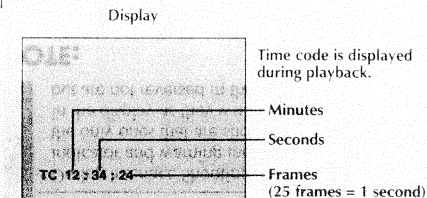
During recording, a time code is recorded on the tape. This code is to confirm the location of the recorded scene on the tape during playback.

If recording starts from a blank portion, the time code begins counting from "00:00:00"

(minute:second:frame). If recording starts from the end of a previously recorded scene, the time code continues from the last time code number.

To perform Random Assemble Editing (pg. 58 - 63), time code is necessary. If during recording a blank portion is recorded partway through the tape, the time code is interrupted. When recording is resumed, the time code starts counting up again from "00:00:00". This means the camcorder may record the same time codes as those existing in a previously recorded scene. To prevent leaving a blank portion on a tape, perform the procedure in "Recording From The Middle of A Tape" (see below) in the following cases:

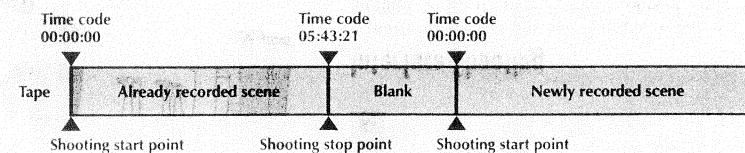
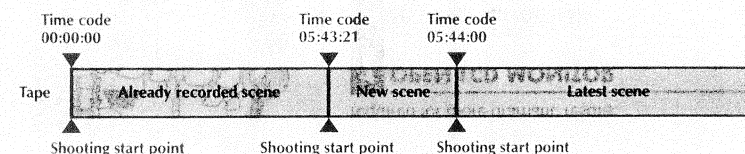
- After playing back the recorded tape, when you shoot again.
- When power shuts off during shooting.
- When a tape is removed and re-inserted during shooting.
- When shooting using a partially recorded tape.
- When shooting on a blank portion located partway through the tape.
- When shooting again after already shooting a scene and opening/closing the cassette cover.

**Recording From The Middle Of A Tape**

1. Play back a tape to find the spot at which you want to start recording, then engage the Still Playback mode (pg. 44).
2. Set the Power Switch to the camera position ("A", "M", "5S" or "PS") and start recording.

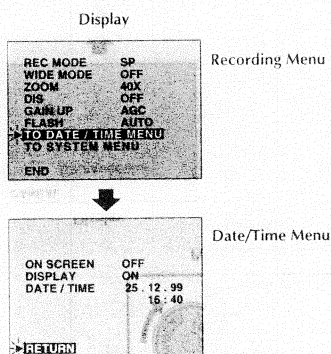
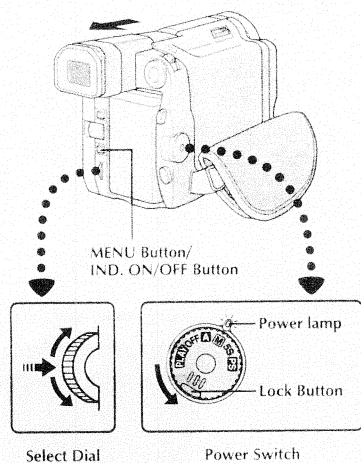
NOTES:

- The Time Code cannot be reset.
- During fast-forwarding and rewinding, time code indication does not move smoothly.

When blank portion is recorded on a tape**Proper recording**

Displaying The Date And Time During Recording

When the Power Switch is set to "M", "5S" or "PS", you can choose whether to display the date and time during recording or not. You must first set the date and time ("Date/Time Settings", pg. 8). Set "DISPLAY" to "ON" in the Date/Time Menu. The Date/Time is always displayed when the Power Switch is set to "A".



1 SELECT OPERATION MODE

Set the Power Switch to "M", "5S" or "PS" while pressing down the Lock Button.

2 ACCESS RECORDING MENU

Press MENU. The Recording Menu appears.

3 ACCESS DATE/TIME MENU

Move the highlight bar to "TO DATE/TIME MENU" by rotating the Select Dial. Press it and the Date/Time Menu appears.

4 SELECT FUNCTION

Move the highlight bar to "DISPLAY" by rotating the Select Dial, then press it.

5 SET FUNCTION PARAMETERS

Cycle through the available settings of the selected functions by rotating the Select Dial and stop when the one you want is displayed. Then press it and the highlight bar automatically moves to "RETURN".

6 CLOSE RECORDING MENU

Press the Select Dial twice. Selection is complete and the menu disappears.

NOTES:

- Connect the camcorder to a TV and set "ON SCREEN" to "ON" in the Date/Time Menu. The display appears on the connected TV.
- The Indicator Display function overrides these settings. Even if you have set "ON SCREEN" to "ON", pressing IND. ON/OFF for longer than 1 second removes the indications from the screen. Pressing it for longer than 1 second again makes the indications re-appear ("LCD Monitor/Viewfinder Indications", pg. 15).

Scene (5-second recording)

Record a vacation or an important event in 5-second clips to keep the action moving. The 5-Second function may also be activated during Full Auto operation. But the White Balance remains in the previously adjusted condition. While the 5-Second mode is activated, Fade/Wipe effect (pg. 33), Program AE with special effects (pg. 35) and other manual operations except the menu settings cannot be performed.

1 SELECT OPERATION MODE

Set the Power Switch to "5S" while pressing down the Lock Button, and pull out the viewfinder fully or open the LCD monitor fully.

- "5S MODE" appears.

2 ENGAGE 5S MODE

Press the Recording Start/Stop Button. The tally lamp lights and beep sounds to indicate the start of recording, and after 5 seconds the camcorder enters Record-Standby mode.

- If you press and hold the Recording Start/Stop Button within 5 seconds after recording starts, Record-Standby mode is not engaged.

3 END 5S MODE

Set the Power Switch to the "A", "M", "PS" or "OFF" position.

To Take A Snapshot In The 5-Second Recording Mode...

.... instead of pressing the Recording Start/Stop Button in step 2, set the Snapshot Dial to the desired mode, then press SNAPSHOT. The camcorder records a 5-second still (pg. 24). When "SCENE" is set to "ANIM." (pg. 26) this function is not available.

NOTE:

When "SCENE" is set to "ANIM." in the System Menu, the 5-second recording mode is not available. Animation recording of a 1/8-second clip is taken instead (pg. 26).

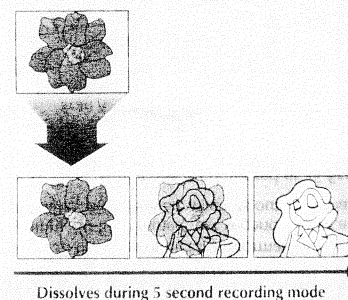
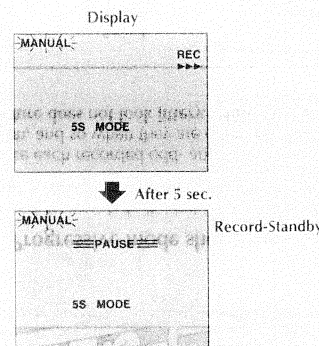
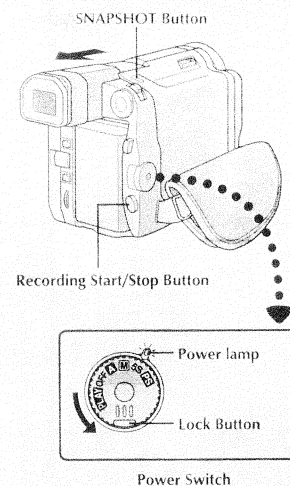
Dissolves during 5 second recording mode

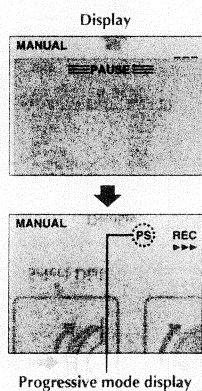
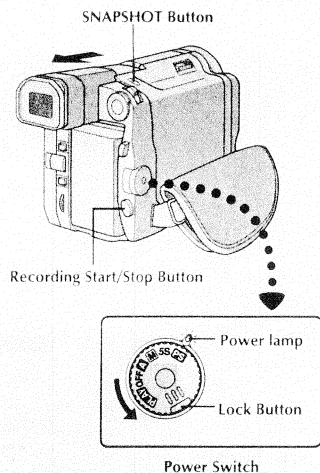
Select "5SD" at the System Menu (pg. 30). "5SD MODE" appears in step 1. Record one 5-second clip, and the image at the end of the clip is stored. If you record the next clip within 5 minutes, the previous scene dissolves as the new scene appears.

- If you turn the power off, the stored image will be lost.

NOTE:

When "DIS" is set to "ON" (pg. 29), dissolve is disabled during 5 second recording mode (5SD). Instead, only simple 5-second recording (5S) of scenes takes place.





Progressive mode display

Progressive Mode Recording

Recording a high-resolution still image. If an image is recorded using the Progressive Mode, it is possible to play back a jitter-free still image with superior quality. A high-resolution still image can also be processed on a personal computer or can be printed out (pg. 50, 51).

1 SELECT OPERATION MODE

Set the Power Switch to "PS" while pressing down the Lock Button located on the switch. Pull out the viewfinder fully or open the LCD monitor fully. The power lamp lights and "PS" appears.

2 START PROGRESSIVE MODE RECORDING

Press the Recording Start/Stop Button. The tally lamp lights.

To End Progressive Video Recording . . .

.... press the Recording Start/Stop Button. The camcorder enters the Record-Standby mode.

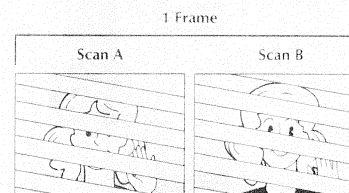
NOTES:

- When an image recorded using the Progressive Mode is played back, the image may not look natural.
- When the Power Switch is set to "PS", Picture Wipe/Dissolve (pg. 32) and the modes of Programme AE with special effects other than "SHUTTER", "TWILIGHT", "SEPIA" or "MONOTONE" (pg. 35) cannot be used.
- The Pro Snapshot modes other than Multi-Analyser 4 & 9 (pg. 24) are also possible in the Progressive Mode.

Description of Progressive Scan CCD

Progressive Scan is a special image sensing method which, unlike conventional interlace scanning, is able to pick up all the lines of picture information in one Scan. Since the Progressive Scan CCD is capable of outputting 50 full Frames* per second — twice the amount of conventional systems — it is able to deliver a high quality picture even when its output signal is converted to a format that can be viewed on a TV screen.

* A PAL TV screen image is composed of 25 Frames per second. 1 Frame is made up of 2 Fields.



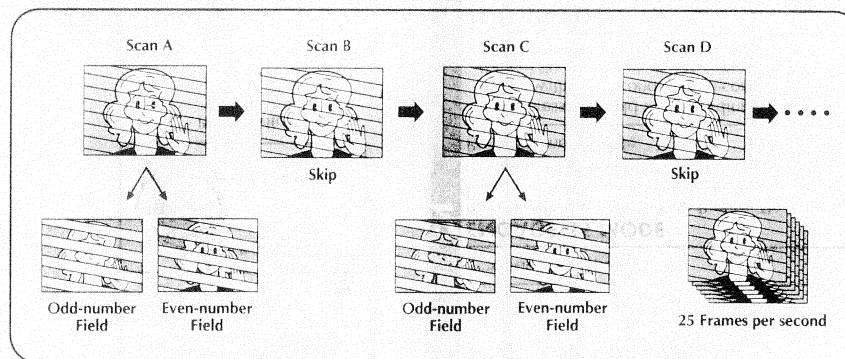
1. Regular shooting of moving images

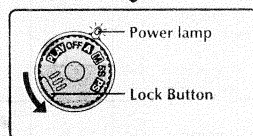
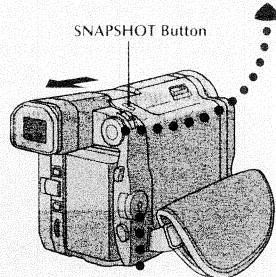
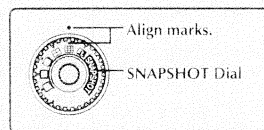
Records 25 odd and 25 even image Fields, for a total of 50 per second. Since there is a time lag between an odd and even Field, when they are combined to make 1 Frame the part of the image that is moving appears as image jitter. However, during normal playback, the moving picture looks smooth and natural.

2. Progressive mode shooting of moving images (Progressive Mode Recording pg. 22)

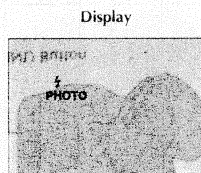
Scan A is recorded, divided into an odd- and even-number Field, and then Scan B is skipped. Scans C and D are handled in the same way as Scans A and B, as illustrated below, thereby recording 25 Frames per second.

Since each recorded odd- and even-number Field originates from the same Scan there is no time lag between them, and so when they are combined into a Frame and a still image is displayed on a TV or PC monitor the picture does not look jittery. However, when moving images are played back, the picture can look unnatural.





Power Switch



During snapshot

Pro Snapshot

Use your camcorder like a regular camera and take a snapshot, or several of them in succession.

PRO SNAPSHOT MODE SELECTION

1 SELECT OPERATION MODE

Set the Power Switch to "A", "M" or "PS" while pressing down the Lock Button located on the switch, and pull out the viewfinder fully or open the LCD monitor fully.

- When the Power Switch is set to "PS", Multi-Analyser 4 and Multi-Analyser 9 are not available.

2 SELECT PRO SNAPSHOT MODE

Choose the appropriate mode from among the 6 Pro Snapshot modes (pg. 25) by setting the Snapshot Dial.

PRO SNAPSHOT RECORDING

1 TAKE PRO SNAPSHOT

Press SNAPSHOT.

- When the "⚡" flash ready indicator is displayed, flash takes place.

If you press during Record-Standby...

.... "PHOTO" appears and a still image will be recorded for approx. 5 seconds, then the camcorder re-enters the Record-Standby mode.

If you press during Recording...

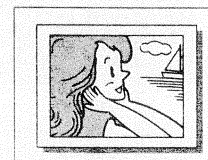
.... "PHOTO" appears and a still image will be recorded for approx. 5 seconds, then the normal recording resumes.



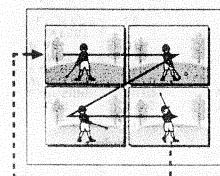
Pro Snapshot mode with no frame*



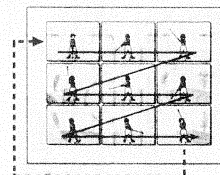
Pro Snapshot mode with frame* ✓



Pin-Up mode



Multi-Analyser 4



Multi-Analyser 9



Nega/Posi mode* ✓

Motor Drive Mode

Keeping **SNAPSHOT** pressed provides an effect similar to serial photography. (The interval between the still images: approx. 0.7 seconds.)

The flash lights only during the first snapshot (pg. 26).

To Remove The Shutter Sound...

.... when you don't want to hear the shutter sound, set BEEP/TALLY to "OFF" in the System Menu (pg. 30). Though the sound is not heard from the speaker, it is recorded on the tape.

Progressive Mode

This mode enables recording a jitter-free still image with superior quality, using the Progressive Scan CCD (pg. 23).

The Progressive Mode is activated during Pro Snapshot recordings (except Multi-Analyser 4 & 9) and Progressive Video Recording (pg. 22).

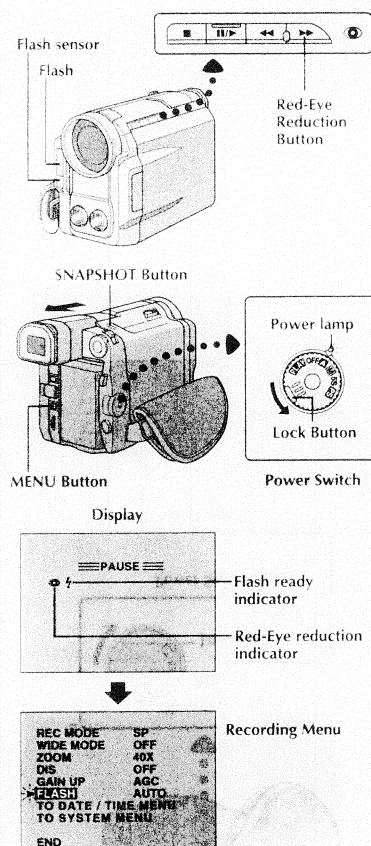
A recorded high-resolution still image can be transferred to a personal computer and processed using the provided software, or can be printed out using the optional digital printer GV-DT3.

NOTES:

- Snapshot should not be used when the digital zoom function is used.
- "Multi-Analyser 4" and "Multi-Analyser 9" will be disabled when Programme AE with special effects other than "SHUTTER" and "TWILIGHT" (pg. 35) is activated.
- "Nega/Posi mode" will be disabled when "CLASSIC FILM", "STROBE", "SLOW" or "VIDEO ECHO" of Programme AE with special effects (pg. 35) is activated.
- If the camcorder is in a dark lit environment with "GAIN UP" set to "AUTO A" on the Recording Menu (pg. 29), Auto Slow Shutter ("AUTO A") will be activated and "Multi-Analyser 4", "Multi-Analyser 9" and "Nega/Posi mode" will be disabled.
- During playback as well, all Pro Snapshot modes except Nega/Posi mode are available. The shutter sound is not heard.
- To reduce the Red-Eye effect of the subject's eyes when the flash lights, pg. 26.
- When a cable or headphone set is connected to the AV OUT connector, the shutter sound is not heard, however it is recorded onto the tape.

* : There is a momentary camera shutter-type blackout together with the sound effect of a shutter closing, which is recorded together with the image.

✓ : Recorded with Progressive mode.

**NOTES:**

- Do not flash at a person at short range.
- In Multi-Analyser 4, Multi-Analyser 9 or Nega/Posi mode, the flash is disabled (pg. 25).
- The flash does not light when the flash is set to "OFF" on the recording menu and also when the battery remaining power is low. Moreover, the flash does not light when it is set to "AUTO" on the recording menu with GAIN UP set to "OFF" (pg. 29) and with Programme AE with special effects set to "TWILIGHT" (pg. 34).
- When taking several snapshots in succession (Motor Drive Mode), the flash lights only during the first one.
- Although images shot with a flash tend to look whiter than they actually are, to compensate for this camcorder automatically darkens the picture when using the flash. When shooting a subject at a distance where the flash light cannot reach (over approx. 2 m), set the flash to "OFF" to prevent the picture from becoming too dark.
- The colour tone changes depending on the background lighting conditions, such as under fluorescent or halogen lamps.
- When you want to change the brightness of the flash, refer to "Flash Brightness Adjustment" (pg. 27).
- While charging the flash, a lightning bolt icon appears and the flash does not light. Although noise may appear, this is not a malfunction. This is not recorded. It can take up to ten seconds to charge the flash.

Snapshot Flash (Auto Flash)

During Full Auto mode, or Manual mode when "FLASH" is set to "AUTO" in the Recording Menu, the flash automatically lights at the subject if it's dark (a lightning bolt icon appears) when taking a snapshot in Record-Standby.

By setting "FLASH" to "ON" or "OFF" in the Recording Menu, the flash can be activated or deactivated on demand.

1 ENGAGE RECORD-STANDBY

Set the Power Switch to "A", "M", "5S" or "PS" while pressing down the Lock Button located on the switch, and pull out the viewfinder fully or open the LCD monitor fully.

If the Power Switch is set to "A" ...

... go to step 5.

If the Power Switch is set to "M", "5S" or "PS" ...

... go to step 2.

2 ACCESS RECORDING MENU

Press MENU. The Recording Menu appears.

3 SELECT FUNCTION

Rotate the Select Dial to move the highlight bar to "FLASH", then press it.

4 SELECT FUNCTION PARAMETERS

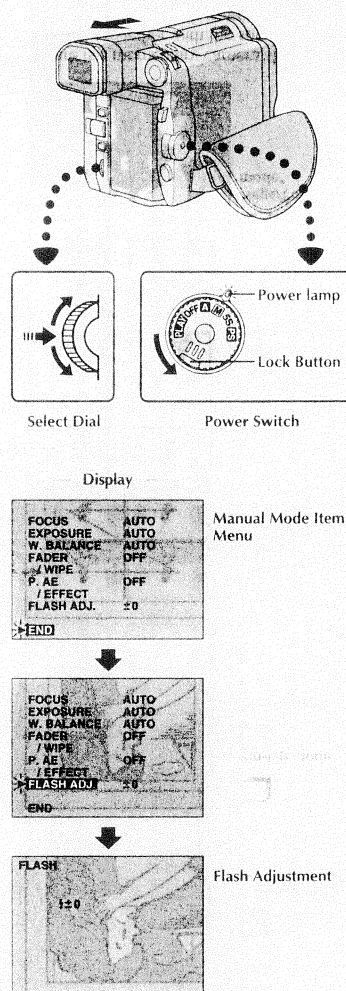
Rotate the Select Dial to display the desired parameter ("AUTO", "ON" or "OFF") and press it. "FLASH" stops blinking and setting is complete. Press the Select Dial once. The normal screen reappears.

5 TAKE SNAPSHOT

Press SNAPSHOT.

To Reduce The Red-Eye Effect Of The Subject's Eyes ...

... it is recommended that you use this function when shooting a person. When "RE" appears, press the Red-Eye Reduction Button (RE). The Red-Eye reduction indicator lights, then press SNAPSHOT. The flash lights twice. The first flash is for reduction of the human eye's red reflection and the second flash is for actual recording.

**Flash Brightness Adjustment**

When a snapshot (pg. 24) is taken in the dark the camcorder flashes (pg. 26) while adjusting the brightness automatically. You can also adjust the flash brightness manually. When you find that the snapshots you took look too bright or too dark, adjust it manually.

1 SELECT OPERATION MODE

Set the Power Switch to "M" or "PS" while pressing down the Lock Button, and pull out the viewfinder fully or open the LCD monitor fully.

2 ACCESS MANUAL MODE ITEM MENU

Press the Select Dial and move the highlight bar to "FLASH ADJ." by rotating the Select Dial.

3 ACCESS FLASH ADJUSTMENT

Press the Select Dial. The Manual Mode Item Menu disappears, "FLASH" appears in the upper left corner and a number appears next to the indication to allow adjustment of the flash manually on the screen.

4 ADJUST BRIGHTNESS OF FLASH

Rotating the Select Dial upward increases the number of the brightness adjustment indicator and rotating the Select Dial downward decreases it.

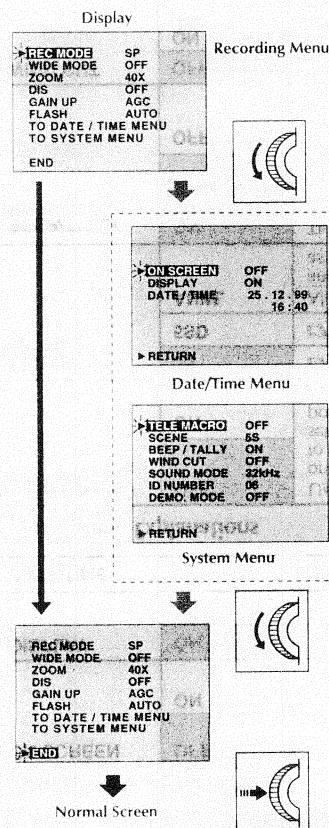
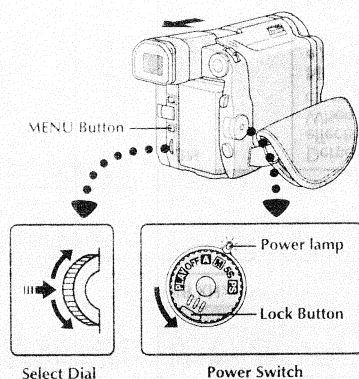
- The adjustment range is from -3 to +3.

5 ACTIVATE BRIGHTNESS OF FLASH

Press the Select Dial. The flash brightness adjustment is complete. The indication "FLASH" changes to "MANUAL".

NOTES:

- When the battery power is low or when "FLASH" is set to "OFF" in the Recording Menu, the screen to set "FLASH ADJ." does not appear.
- When you change the subject you are shooting or the shooting location, set it back to ± 0 as described in step 4 and take a snapshot to check the flash brightness. After doing this adjust to your desired brightness.



Using Menu For Detailed Adjustment

This camcorder is equipped with an easy-to-use, on-screen menu system that simplifies many of the more detailed camcorder settings.

1 ACCESS RECORDING MENU

Set the Power Switch to "M", "SS" or "PS" while pressing down the Lock Button, and pull out the viewfinder fully or open the LCD monitor fully. Then press MENU. The Recording Menu appears.

2 SELECT FUNCTION

Rotate the Select Dial to move the highlight bar to the desired function.

- If the setting you want cannot be found in the Menu Screen, place the highlight bar on "END", then go to step 6.

3 MAKE SETTING

Press the Select Dial. The setting procedure depends on the function you select.

If you select a function other than "TO DATE/TIME MENU" or "TO SYSTEM MENU"...

... each function's parameter starts blinking. Rotate the Select Dial until the desired parameter appears. Go to step 5.

If you select "TO DATE/TIME MENU"...

... the Date/Time Menu appears. Go to step 4.

If you select "TO SYSTEM MENU"...

... the System Menu appears. Go to step 4.

4 SELECT FUNCTION PARAMETERS IN DATE/TIME MENU OR SYSTEM MENU

Rotate the Select Dial to move the highlight bar to the desired function, then press it.

If you select "DATE/TIME"... pg. 8

If you select other functions...

... rotate the Select Dial until the desired parameter appears, then press it. The highlight bar automatically moves to "RETURN". Go to step 5.

5 END SETTING

Press the Select Dial. The Recording Menu reappears with the highlight bar on "END".

6 CLOSE MENU SCREEN

Press the Select Dial. The normal screen reappears.

Recording Menu Explanations

REC MODE		Allows you to set the recording mode (SP or LP) depending on your preference (pg. 10).
WIDE MODE	OFF	Select "OFF" when you want to use neither "SQUEEZE" nor "CINEMA".
	SQUEEZE	For playback on TVs with an aspect ratio of 16:9. Naturally expands the image to fit the screen without distortion. [W] appears. When using this mode, refer to your wide-screen TV's instruction manual. During playback/recording on 4:3 TVs/LCD monitor/viewfinder, the image is elongated vertically.
	CINEMA	Inserts black bands at the top and bottom of the screen. During playback on wide-screen TVs, the black bands at the top and bottom of the screen are cut and the screen ratio becomes 16:9. When using this mode, refer to your wide-screen TV's instruction manual. During playback/recording on 4:3 TVs/LCD monitor/viewfinder, black bands are inserted at the top and bottom of the screen and the image appears like a letterboxed 16:9 movie.
ZOOM	10X	When set to "10X" while using digital zoom, the zoom magnification will reset to 10X since digital zoom will be disengaged.
	40X	Allows you to use the Digital Zoom. By digitally processing and magnifying images, zooming is possible from 10 times (the optical zoom limit), to a maximum of 40 times digital magnification.
	200X	Allows you to use the Digital Zoom. By digitally processing and magnifying images, zooming is possible from 10 times (the optical zoom limit), to a maximum of 200 times digital magnification.
DIS	OFF	To compensate for unstable images caused by camera-shake, particularly at high magnification.
	ON	NOTES: • Accurate stabilisation may not be possible if hand shake is excessive, or under the following conditions: • When shooting subjects with vertical or horizontal stripes. • When shooting dark or dim subjects. • When shooting subjects with excessive backlighting. • When shooting scenes with movement in various directions. • When shooting scenes with low-contrast backgrounds. • Switch off the Digital Image Stabiliser (DIS) when recording with the camcorder on a tripod. • The "[V]" indicator appears blinking if the Stabiliser cannot be used.
GAIN UP	AGC	This is automatically activated during Full Auto mode. The overall appearance is jagged, but the image is bright.
	AUTO A-15	The shutter speed is automatically adjusted (1/25 — 1/200 sec.). Shooting a subject in low or poor lighting at 1/25 sec, shutter speed provides a brighter image than in the AGC mode, but the subject's movements are not smooth or natural. When set to this mode, "A-15" is displayed.
	OFF	Allows you to shoot dark scenes with no picture brightness adjustment.
FLASH	AUTO	Flash automatically takes place in the dark (pg. 26).
	OFF	To take a snapshot without flash even in the dark. Since the shutter speed becomes slow, use a tripod to avoid camera shake.
	ON	To emit flash on demand when taking a snapshot.
TO DATE/TIME MENU		Refer to "Date/Time Menu Explanations" (pg. 30).
TO SYSTEM MENU		Refer to "System Menu Explanations" (pg. 30).

[] : Factory-preset

ON SCREEN	OFF	Keeps the camcorder's display from appearing on the connected TV screen.
	ON	Makes the camcorder's display appear on screen when the camcorder is connected to a TV.
DISPLAY	ON	Makes the date/time settings appear in the camcorder (☞ pg. 20).
	OFF	Keeps the date/time settings from appearing in the camcorder.
DATE/TIME	Allows you to set the current date and time (☞ pg. 31).	

TELE MACRO	OFF	Usually the distance to a subject where the lens is in focus depends on the zoom magnification. Unless there is a distance more than 1m to the subject, the lens is out of focus at the maximum telephoto setting. When set to "ON", you can shoot a subject as large as possible at a distance of approx. 60 cm. • Depending on the zoom position, the lens may go out of focus.
	ON	
SCENE	5S	☞ pg. 21.
	5SD	☞ pg. 21.
	ANIM.	Allows you to record a 1/8-second clip. By using an inanimate object and changing its position between shots, you can record the subject as though it is moving (☞ pg. 21).
BEEP/TALLY	ON	The tally lamp comes on to signal the start of recording. The beep sounds when the power is turned on or off, and at the beginning and end of recording. Also to activate the shutter sound effect (☞ pg. 25).
	OFF	The tally lamp remains off at all times. Even though not heard while shooting, shutter sound is recorded on the tape.
WIND CUT	OFF	Disengages the function which cuts down on noise created by wind.
	ON	Helps cut down on noise created by wind. • "🌀" appears. • The quality of the sound will change. This is normal.
SOUND MODE	32 kHz	Enables recording of stereo sound on four separate channels, and is recommended for use when performing audio dubbing with another digital camcorder.
	48 kHz	Enables recording of stereo sound on two separate channels.
ID NUMBER	This number is necessary when connecting the camcorder to a device such as a computer using the I terminal (JLIP). The numbers range from 01 to 99. Factory setting is 06.	
DEMO. MODE	OFF	Automatic demonstration will not take place.
	ON	Demonstrates certain functions such as Programme AE with special effects, etc., and can be used to confirm how these functions operate. When "DEMO. MODE" is set to "ON" and the Recording Menu is closed, demonstration starts. NOTES: • If a tape is in the camcorder, the demonstration cannot be turned on. • By turning off the camcorder, "DEMO. MODE" is set to "OFF" automatically.

EN 31

Recording Start/Stop Button

Select Dial

Power Switch

Display

Manual Mode Item Menu

FADER / WIPE

FADER / WIPE Menu

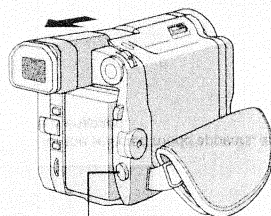
FADER - WHITE

MANUAL

[Ex.: WH] FADER - WHITE]

Fade-in

Fade



Recording Start/Stop Button

Previous scene end



[Ex.: P WIPE — SCROLL]

Within 5 minutes ...



Wipe-in

PICTURE WIPE OR DISSOLVE SELECTION

(P, P, P, P, P, P and P)

Combine the Picture Wipe and Dissolve functions for a professional transition effect. There are 6 Picture Wipe effects and 1 Dissolve effect. The Picture Wipe or Dissolve works when recording is started.

Before the following steps, perform steps 1 through 4 on pg. 31.

5 STORE SCENE IN MEMORY

Engage the Record-Standby mode.

If you select Picture Wipe/Dissolve during recording ...

... press the Recording Start/Stop Button when one scene is finished. The point at which the scene ended is stored in memory.

If you select Picture Wipe/Dissolve during Record-Standby mode ...

... press the Recording Start/Stop Button to start recording and press it again when one scene is finished. The point at which the scene ended is stored in memory.

If you select Picture Wipe/Dissolve during Record-Standby mode after performing a Picture Wipe/Dissolve ...

... the point at which the scene ended is already stored in memory.

6 START RECORDING

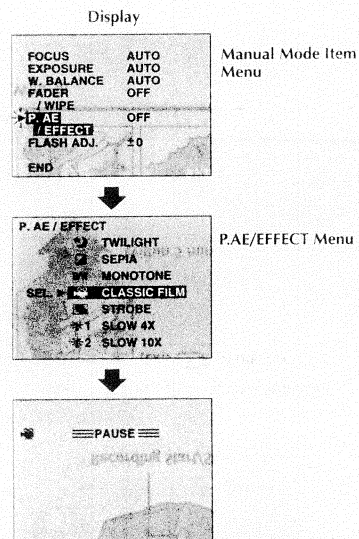
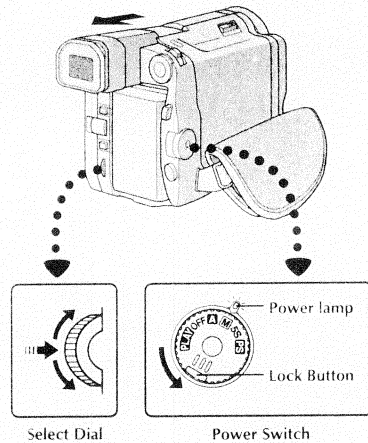
If you start recording a new scene within 5 minutes of the end of the previous recording (without having turned the camcorder's power off), the previous scene wipes out, revealing the new scene.

NOTES:

- You can extend the length of a Fade or Wipe by pressing and holding the Recording Start/Stop Button.
- If the power is turned off after a scene is finished recording, the stored point is erased. This disables the Picture Wipe/Dissolve combination. When this happens, the Picture Wipe/Dissolve indicator blinks. Try recording again, but do not turn the power off when you are finished. Please be advised that power also shuts off automatically if 5 minutes elapse in the Record-Standby mode.
- The sound at the end of the last recorded scene is not stored.
- When "DIS" is set to "ON" (pg. 29), Picture Wipe/Dissolve is disabled.

Fader And Wipe Menu

Menu	Effect
WH FADER — WHITE	Fade in or out with a white screen.
BK FADER — BLACK	Fade in or out with a black screen.
BW FADER — B.W	Fade in to a colour screen from a black and white screen, or fade out from colour to black and white.
WI WIPE — CORNER	Wipe in on a black screen from the upper right to the lower left corner, or wipe out from lower left to upper right, leaving a black screen.
WJ WIPE — WINDOW	The scene starts in the centre of a black screen and wipes in toward the corners, or comes in from the corners, gradually wiping out to the centre.
WS WIPE — SLIDE	Wipe in from right to left, or wipe out from left to right.
WD WIPE — DOOR	Wipe in as the two halves of a black screen open to the left and right, revealing the scene, or wipe out and the black screen reappears from left and right to cover the scene.
WT WIPE — SCROLL	The scene wipes in from the bottom to the top of a black screen, or wipes out from top to bottom, leaving a black screen.
WS WIPE — SHUTTER	Wipe in toward the centre of a black screen from the top and bottom, or wipe out from the centre toward the top and bottom, leaving a black screen.
DP DISSOLVE	The new scene gradually appears as the old one gradually disappears.
P WIPE — CORNER	The new scene wipes in over the previous one from the upper right corner to the lower left corner.
P WIPE — WINDOW	The next scene gradually wipes in from the centre of the screen toward the corners, covering the previous scene.
P WIPE — SLIDE	The next scene gradually wipes in over the previous one from right to left.
P WIPE — DOOR	The previous scene wipes out from the centre to the right and left, like a door being pushed open to reveal the next scene.
P WIPE — SCROLL	The new scene wipes in over the last one from the bottom of the screen to the top.
P WIPE — SHUTTER	The new scene wipes in over the previous one from the centre toward the top and bottom of the screen.
?R RANDOM	When this function is activated, the camcorder randomly selects the effect used in scene transition (from W, B, W, S, D, T, S and S). The Picture Wipe/Dissolve function is not available.



The indicator for the selected mode appears, and the selected mode is engaged.

Programme AE With Special Effects

IMPORTANT:

If certain Fades or Wipes (pg. 33) are activated, some modes of Programme AE with special effects cannot be used. If you select a mode that is unusable in the current situation, the mode's symbol blinks.

You can choose any one of the effects from the P.AE/EFFECT Menu.

1 SELECT OPERATION MODE

Set the Power Switch to "M" or "PS" while pressing down the Lock Button located on the switch, and pull out the viewfinder fully or open the LCD monitor fully.

2 ACCESS MANUAL MODE ITEM MENU

Press the Select Dial. The Manual Mode Item Menu appears.

3 ACCESS "P.AE/EFFECT" SELECT MENU

Rotate the Select Dial to move the highlight bar to "P.AE/EFFECT", then press it.

4 SELECT MODE

Move the highlight bar to the desired mode by rotating the Select Dial, then press it.

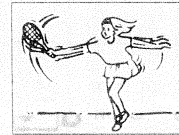
- The P.AE/EFFECT Menu disappears and the selected mode is activated. The symbol of the selected mode appears.

5 DISABLE MODE

To turn off the selected mode, re-access the P.AE/EFFECT Menu and move the highlight bar to "OFF" by rotating the Select Dial. Then press it.

NOTES:

- Programme AE with special effects can be changed during recording or during Record-Standby.
- When "DIS" is set to "ON", "VIDEO ECHO" is disabled.
- Even if you set "DIS" to "ON" (pg. 29) with "CLASSIC FILM", "STROBE" or "SLOW" activated, "DIS" will be disabled.



SHUTTER
(Variable Shutter Speed)

1/50—The shutter speed is fixed at 1/50th of a second. Black bands that usually appear when shooting a TV screen become narrower.
1/100—The shutter speed is fixed at 1/100th of a second. The flickering that occurs when shooting under a fluorescent light or mercury-vapor lamp is reduced.
1/250, 1/500—These settings allow fast-moving images to be captured one frame at a time, for vivid, stable slow-motion playback. The faster the shutter speed, the darker the picture becomes. Use the shutter function under good lighting conditions.



TWILIGHT

Makes evening scenes look more natural. White Balance (pg. 40) is initially set to , but can be changed to your desired setting. When Twilight is chosen, the camcorder automatically adjusts the focus from approx. 10 m to infinity. From less than 10 m, adjust the focus manually.



SEPIA

Recorded scenes have a brownish tint like old photos. Combine this with the Cinema mode for a classic look.

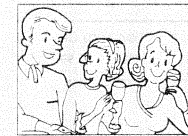
B/W MONOTONE

Like classic black and white films, your footage is shot in B/W. Used together with the Cinema mode, it enhances the "classic film" effect.



CLASSIC FILM

Gives recorded scenes a strobe effect.



STROBE

Your recording looks like a series of consecutive snapshots.

SLOW (Slow Shutter)

You can light dark subjects or areas even brighter than they would be under good natural lighting.



The Shutter Speed is set to 1/12.5th of a second to quadruple the sensitivity.



The Shutter Speed is set to 1/5th of a second to provide 10 times the sensitivity.

NOTES:

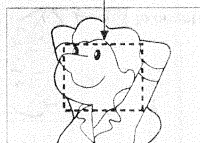
- When using "SLOW", the image takes on a strobe-like effect.
- Use "SLOW" only in dark areas.
- The Manual Focus indication may appear and flash when "SLOW" is in use.
- If the image is out of focus, adjust manually. It is also recommended that you use a tripod, if possible.



VIDEO ECHO

Adds a "ghost" to the subject, giving your recording a "fantasy" feeling.

Focus detection zone



Focusing

AUTO FOCUS

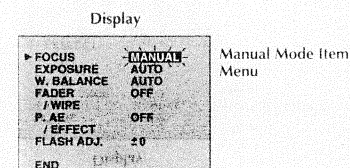
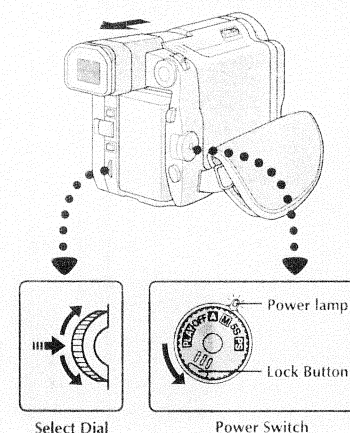
The camcorder's Full Range AF system offers continuous shooting ability from close-up (as close as approx. 1.5 cm to the subject) to infinity. However, correct focus may not be obtainable in the situations listed below (in these cases use manual focusing):

- When two subjects overlap in the same scene.
- When illumination is low.*
- When the subject has no contrast (difference in brightness and darkness), such as a flat, one-colour wall, or a clear, blue sky.*
- When a dark object is barely visible in the viewfinder.*
- When the scene contains minute patterns or identical patterns that are regularly repeated.
- When the scene is affected by sunbeams or light reflecting off the surface of a body of water.
- When shooting a scene with a high-contrast background.

* The following low-contrast warnings appear blinking: ▲, ▼ and ☹.

NOTES:

- If the lens is smeared or blurred, accurate focusing is not possible. Keep the lens clean, wiping with a piece of soft cloth if it gets dirty. When condensation occurs, wipe with a soft cloth or wait for it to dry naturally.
- When shooting a subject close to the lens, zoom-out first (pg. 18). If zoomed-in in the auto focus mode, the camcorder could automatically zoom out depending on the distance between the camcorder and the subject. When "TELE MACRO" (pg. 30) is activated, the camcorder will not zoom out automatically.



MANUAL FOCUS

NOTE:

You should already have made the necessary viewfinder adjustments (pg. 11). If you have not, do so before continuing.

1 SELECT OPERATION MODE

Set the Power Switch to "M" or "PS" while pressing down the Lock Button located on the switch, and pull out the viewfinder fully or open the LCD monitor fully.

2 ACCESS MANUAL MODE ITEM MENU

Press the Select Dial. The Manual Mode Item Menu appears.

3 ACCESS MANUAL FOCUS

Move the highlight bar to "FOCUS" by rotating the Select Dial, then press it. Rotate the Select Dial to display "MANUAL", then press it. The Manual Mode Item Menu disappears and "FOCUS" is displayed in the upper left corner. The focus is locked at this point.

4 ADJUST FOCUS

To farther subject . . .

.... rotate the Select Dial upward. "▲" appears and blinks. Go to step 5.

To nearer subject . . .

.... rotate the Select Dial downward. "▼" appears and blinks. Go to step 5.

5 END ADJUSTMENT OF FOCUS

Press the Select Dial. Focus adjustment is complete. The indication changes from "FOCUS" to "MANUAL".

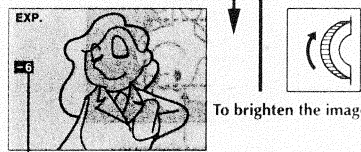
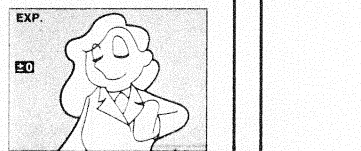
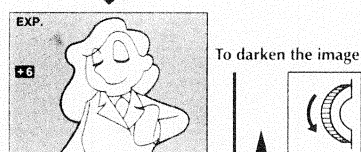
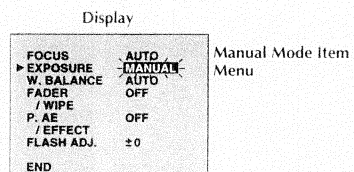
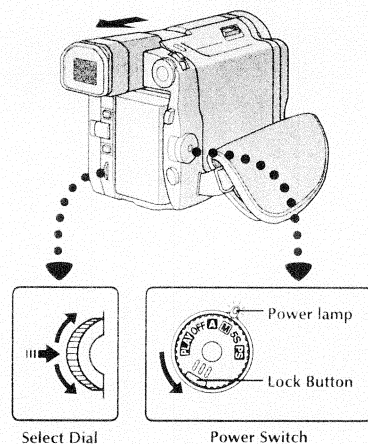
- If you want to reset the focus, repeat from step 2.

To Change To Auto Focus . . .

.... rotate the Select Dial to display "AUTO" then press it in step 3. The manual focus indicators disappear. Or set the Power Switch to "A".

NOTES:

- After the Power Switch is set to "OFF", Manual Focus is reset to "AUTO".
- Be sure to focus the lens in the maximum telephoto position when you use the Manual Focus mode. If you focus in on a certain subject in the wide-angle position, sharply focused images cannot be obtained when zoomed up because the depth-of-field is reduced at longer focal lengths.
- When the focus level cannot be adjusted any farther or closer, "▲" or "▼" will blink.



Exposure control indicator

Exposure Control

This feature automatically adjusts the iris for the best available picture quality, but you can override and make the adjustment manually.

- 1 SELECT OPERATION MODE**
Set the Power Switch to "M" or "PS" while pressing down the Lock Button located on the switch, and pull out the viewfinder fully or open the LCD monitor fully.
- 2 ACCESS MANUAL MODE ITEM MENU**
Press the Select Dial. The Manual Mode Item Menu appears.
- 3 ACCESS EXPOSURE CONTROL**
Move the highlight bar to "EXPOSURE" by rotating the Select Dial, then press it. Rotate the Select Dial to display "MANUAL", then press it. The Manual Mode Item Menu disappears. "EXP." and the highlight bar on the exposure control indicator are displayed.
- 4 ADJUST EXPOSURE**
To brighten the image . . .
.... rotate the Select Dial upward. The exposure control indicator increases (maximum +6). Go to step 5.
To darken the image . . .
.... rotate the Select Dial downward. The exposure control indicator decreases (maximum -6). Go to step 5.
- 5 END ADJUSTMENT OF EXPOSURE**
Press the Select Dial. Exposure adjustment is complete. The indication "EXP." changes to "MANUAL" and the highlight bar on the exposure control indicator goes out.
• If you want to reset the exposure, repeat step 2.

To Return To Automatic Exposure Control . . .

.... rotate the Select Dial to display "AUTO" then press it in step 3. The exposure control indicator disappears. Or set the Power Switch to "A".

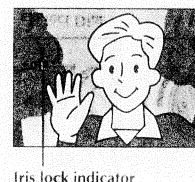
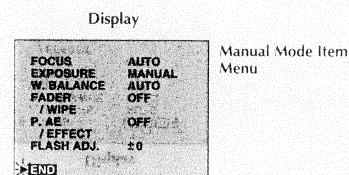
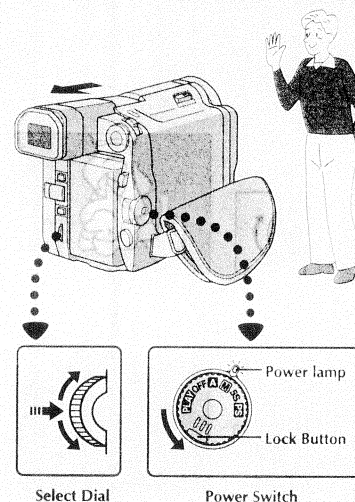
NOTES:

- After the Power Switch is set to "OFF", Exposure Control is reset to "AUTO".
- Manual exposure adjustment is recommended in the following situations:
 - When shooting using reverse lighting or when the background is too bright.
 - When shooting on a reflective natural background such as at the beach or when skiing.
 - When the background is overly dark or the subject light.

Iris Lock

Use this function when shooting a moving subject, when zooming, when the subject changes its distance (thus its size in the LCD monitor or the viewfinder), or when you want to lock the brightness level.

When the subject is close, keep the iris locked. Even when the subject moves away from you, the image will not darken or brighten.



- 1 SELECT OPERATION MODE**
Set the Power Switch to "M" or "PS" while pressing down the Lock Button located on the switch, and pull out the viewfinder fully or open the LCD monitor fully.
- 2 ACCESS MANUAL MODE ITEM MENU**
Press the Select Dial. The Manual Mode Item Menu appears.
- 3 ACCESS EXPOSURE CONTROL**
Move the highlight bar to "EXPOSURE" by rotating the Select Dial and then press it. Rotate the Select Dial to display "MANUAL", then press it. "EXP." is displayed.
- 4 CENTER SUBJECT, LOCK IRIS**
Adjust zoom so that the subject fills the LCD monitor or the viewfinder, then press and hold the Select Dial for over 2 seconds. The exposure control indicator and "I" appear, indicating that the iris is locked. Press the Select Dial. The indication displayed in the upper left corner changes from "EXP." to "MANUAL".

To Return To Automatic Iris Control . . .

.... rotate the Select Dial to display "AUTO" then press it in step 3. The exposure control indicator and "I" disappear. Or set the Power Switch to "A".

NOTE:

Iris lock is recommended in the following situations:

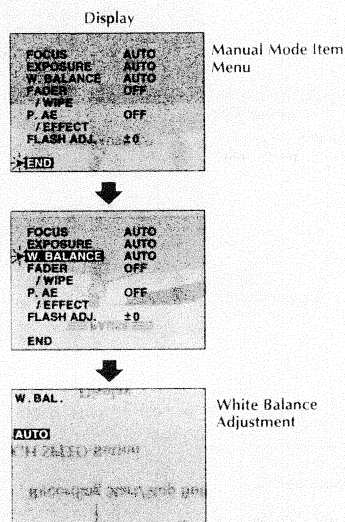
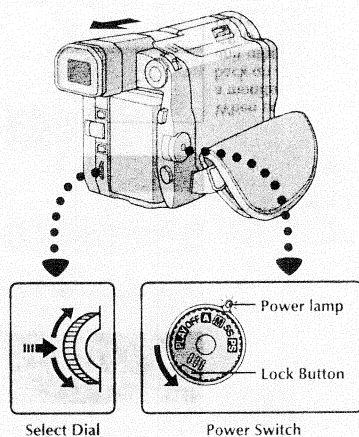
- When shooting on a reflective natural background such as at the beach or when skiing.
- When shooting objects under a spotlight.
- When the subject is backing away.
- When zooming.

To Lock The Exposure Control And The Iris . . .

.... after step 3, adjust the exposure rotating the Select Dial. Then lock the iris in step 4. For automatic locking, rotate the Select Dial to display "AUTO", then press it in step 3. The iris becomes automatic after about 2 seconds.

Iris

Works like the pupil of the human eye. In a well-lit environment, the human pupil contracts to keep too much light from entering. In low lighting, the pupil dilates to allow more light in.



White Balance Adjustment

A term that refers to the correctness of colour reproduction under various lighting. If the white balance is correct, all other colours will be accurately reproduced. The white balance is usually adjusted automatically. However, the more advanced camcorder operator would prefer to control this function manually and achieve a more professional colour/tint reproduction.

1 SELECT OPERATION MODE

Set the Power Switch to "M" or "PS" while pressing down the Lock Button located on the switch, and pull out the viewfinder fully or open the LCD monitor fully.

2 ACCESS MANUAL MODE ITEM MENU

Press the Select Dial. The Manual Mode Item Menu appears.

3 ACCESS WHITE BALANCE ADJUSTMENT

Move the highlight bar to "W.BALANCE" by rotating the Select Dial. Then press it. The Manual Mode Item Menu disappears. "W.BAL." appears in the upper left corner and the currently selected mode indication is also displayed.

4 SET FUNCTION PARAMETERS

Cycle through the available settings of the selected functions by rotating the Select Dial, and stop when the one you want is displayed.

- "AUTO" – The white balance is adjusted automatically. This is the factory preset position.
- "☐" – When shooting with the white balance already having been set on the subject (pg. 41).
- "☀" – When shooting outdoors on a sunny day.
- "☁" – When shooting outdoors on a cloudy day.
- "💡" – When using a video light or other similar type of lighting.

5 CLOSE WHITE BALANCE ADJUSTMENT

Press the Select Dial again. Selection is complete. The indication "W. BAL." changes to "MANUAL".

To Return To Automatic White Balance . . .

... select "AUTO" in step 4. Or set the Power Switch to "A".

NOTE:

White balance cannot be used when Sepia or Monotone (pg. 35) is activated.

Manual White Balance Operation

If the camera is operating in Manual mode "M" or "PS", perform a Manual White Balance when shooting under various types of lighting.

1 SELECT OPERATION MODE

Follow steps 1 through 4 of the white balance adjustment (pg. 40), select "MAN".

2 SET MANUAL WHITE BALANCE

Hold a sheet of plain white paper in front of the subject. Adjust zoom or position yourself so that the white paper fills the screen.

3 ENTER SETTING

Press the Select Dial until the ☐ begins blinking.

- When the setting is completed, the ☐ stops blinking.

4 EXIT MANUAL WHITE BALANCE ADJUSTMENT

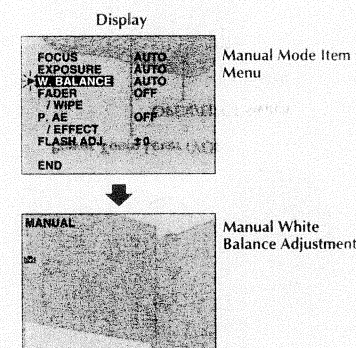
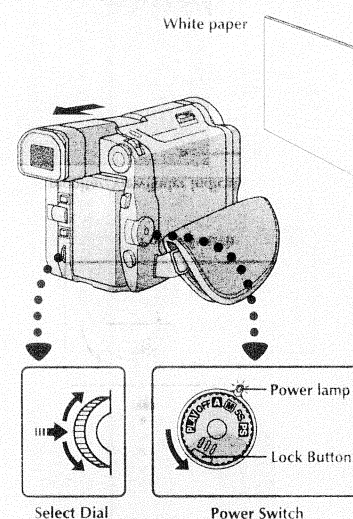
Press the Select Dial. The indication "W.BAL." changes to "MANUAL" and only the Manual White Balance indicator ☐ is displayed.

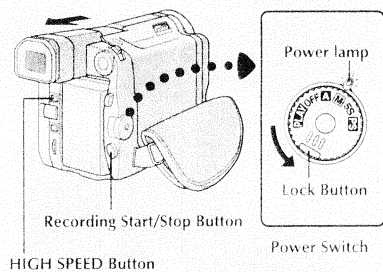
To Change The Tint For Recording . . .

... in step 2, substitute colored paper for white. The white balance is adjusted based on the colour, changing the tint. Red paper — deeper green; blue paper — orange; yellow paper — deeper purple.

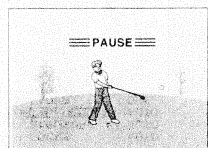
NOTES:

- In step 2, it may be difficult to focus on the white paper in some circumstances. In such a case, adjust focus manually (pg. 37).
- A subject can be shot under various types of lighting conditions indoors (natural, fluorescent, candlelight, etc.). Because the colour temperature is different depending on the light source, the tint of the subject will differ depending on the white balance settings. Use this function for a more natural result.
- Once you adjust white balance during Manual White Balance operation, the setting is retained even if the power is turned off or the battery removed.





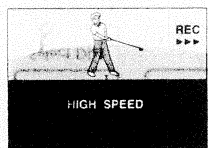
Display
(LCD monitor or viewfinder)



Normal Record-Standby



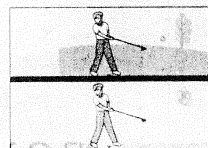
High Speed Recording Standby



High Speed Recording



Playback of image recorded in High Speed Recording mode on this camcorder's display



When connected to a monitor or played back on a video unit other than GR-DVL9600/DVL9500

High Speed Recording

Records 100 frames per second. The images recorded in High Speed Recording mode can be played back with high density in slow-motion. This feature is an effective way to capture fast-moving action. Also refer to "Progressive Slow-Motion Playback" on pg. 45.

1 SELECT OPERATION MODE

Set the Power Switch to "M" while pressing down the Lock Button, and pull out the viewfinder fully or open the LCD monitor fully.

2 ENGAGE HIGH SPEED RECORDING STANDBY

Press **HIGH SPEED** while in the Record-Standby mode.

- "HIGH SPEED" is displayed.

3 START RECORDING

Press the Recording Start/Stop Button.

- The tally lamp lights.
- Snapshot recording (pg. 24) is disabled during High Speed Recording.

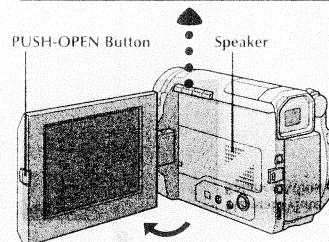
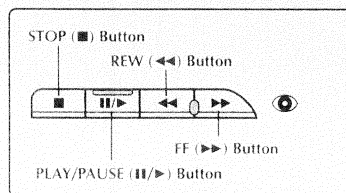
4 END RECORDING

Press the Recording Start/Stop Button.

- Record-Standby mode is engaged.
- To release the High Speed Recording mode, press **HIGH SPEED**.

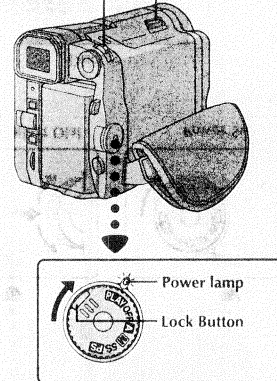
NOTES:

- During High Speed Recording, the image appears in the upper half of the camcorder's display as shown in the illustration. While the camcorder is connected to a monitor (using S-Video output, AV OUT, DV OUT), the screen is divided into 2 and the image is displayed both in the upper and lower halves of the monitor as shown in the illustration.
- If shooting is attempted under a fluorescent lamp, the screen may jitter.
- It is possible to copy scenes recorded in High Speed Recording mode from this camcorder only to another GR-DVL9600.
- During High Speed Recording, the following functions are disabled: Fade/Wipe effect other than "WHITE", "BLACK" and "B.W" (pg. 33), Programme AE with special effects other than "TWILIGHT", "SEPIA", "MONOTONE" and "SHUTTER" (pg. 35), "DIS" (pg. 29), Snapshot (pg. 24) and Digital Zoom (pg. 29).
- If zooming is attempted during High Speed Recording, the image may become slightly blurred.
- The playback area for images recorded in High Speed Recording mode is half the height of the screen. If images recorded in High Speed Recording mode are played back on a video unit other than GR-DVL9600/DVL9500, the screen will appear divided into 2, and the images will be displayed both in the upper and lower halves of the screen.
- When editing with J-LIP Video Producer (provided software), Playback Special Effects and Fade/Wipe effects do not function properly in images recorded in High Speed Recording mode.

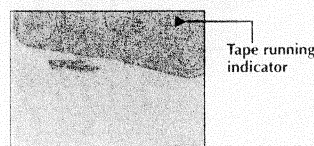


Power Zoom Lever (VOL.)

OPEN/EJECT Switch



LCD monitor/Viewfinder Indication



1 LOAD A CASSETTE

First press **PUSH-OPEN** and open the LCD monitor fully.

Slide **OPEN/EJECT** in the direction of the arrow, then swing the cassette cover open until it locks. The holder opens automatically.

Insert a tape and press "PUSH HERE" to close the cassette holder.

2 SELECT OPERATION MODE

Set the Power Switch to "PLAY" while pressing down the Lock Button located on the switch. The power lamp lights.

3 PLAY BACK

Press **PLAY/PAUSE (II▶)**. The playback picture appears.

4 STOP PLAYBACK

Press **STOP (■)**.

Rewind or Fast-forward the tape

Press **REW (◀)** to rewind, or **FF (▶)** to fast-forward the tape during Stop mode.

NOTES:

- If Stop mode continues for 5 minutes when the power supply is a battery pack, the camcorder shuts off automatically. To turn on again, set the Power Switch to "OFF", then to "PLAY".
- The playback picture can also be viewed in the viewfinder (with the viewfinder pulled out) or on a connected TV (pg. 48, 49). Camcorder operation is the same as described in this section.
- You can also view the playback picture on the LCD monitor with it flipped over and retracted.
- LCD monitor/viewfinder indications:
 - When power is supplied from the battery pack: the "◻" battery pack remaining power indicator is displayed on the LCD monitor when it is turned on. When power is supplied through the DC cord: "◻" does not appear.
 - During Stop mode, none of the indications are displayed in the viewfinder.
 - Copy guarded tapes cannot be played back. The screen becomes blue back.

Speaker (or Headphones) Volume Control

You can adjust the speaker (or headphones connected to the headphones connector) volume by pushing the Power Zoom Lever.

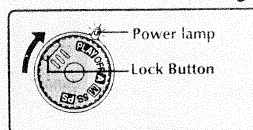
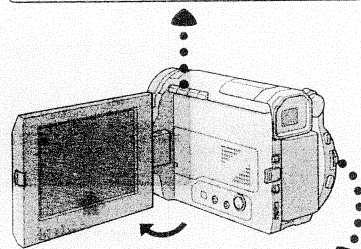
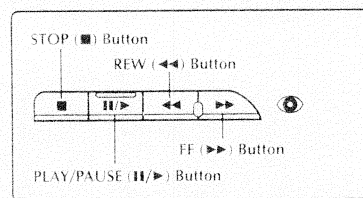
1 ADJUST VOLUME

If you want to turn up the volume...

.... push the Power Zoom Lever (VOL.) towards "+".

If you want to turn down the volume...

.... push the Power Zoom Lever (VOL.) towards "-".



Power Switch

FEATURE: Still Playback**PURPOSE:**

To pause during playback.

OPERATION:

- 1) Press **PLAY/PAUSE** (⏮▶) during playback.
- 2) To resume normal playback, press **PLAY/PAUSE** (⏮▶) again.

NOTES:

- If still playback continues for more than about 3 minutes, the camcorder's Stop mode is automatically engaged. After 5 minutes in the Stop mode, the camcorder's power is automatically turned off.
- When **PLAY/PAUSE** (⏮▶) is pressed, the image may not pause immediately so that the camcorder can stabilize the still image. During this time, if **PAUSE** (⏮▶) on the remote control is pressed, Slow-Motion Playback will start. This is not a malfunction.

FEATURE: Shuttle Search**PURPOSE:**

To allow high-speed search in either direction.

OPERATION:

- 1) Press **FF** (▶▶) to forward or press **REW** (◀◀) to reverse during playback.
- 2) To resume normal playback, press **PLAY/PAUSE** (⏮▶).

NOTES:

- During playback, press and hold **REW** (◀◀) or **FF** (▶▶). The search continues as long as you hold the button. Once you release it, normal playback resumes.
- A slight mosaic effect appears on screen during Shuttle Search. This is not a malfunction.

FEATURE: Slow-Motion Playback

Available only with the RM-V711U remote control (provided) (pg. 56).

FEATURE: Frame-By-Frame Playback

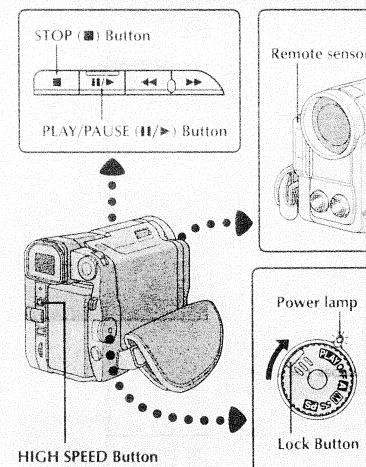
Available only with the RM-V711U remote control (provided) (pg. 56).

FEATURE: Playback Zoom

Available only with the RM-V711U remote control (provided) (pg. 56).

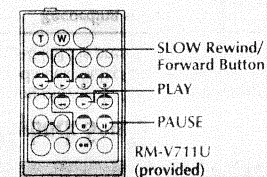
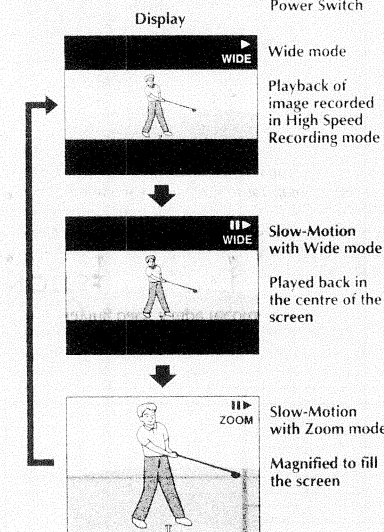
FEATURE: Playback Special Effects

Available only with the RM-V711U remote control (provided) (pg. 57).



HIGH SPEED Button

Power Switch

SLOW Rewind/
Forward Button

PLAY

PAUSE

RM-V711U
(provided)**Progressive Slow-Motion Playback**

Images recorded in High Speed Recording mode will offer less blur than normal images when played back in slow-motion. You can watch fast-moving action in slow-motion with superior quality.

1 SELECT OPERATION MODE

Set the Power Switch to "PLAY" while pressing down the Lock Button located on the switch.

2 FIND SCENE OF INTEREST

Press **PLAY** (▶).

- When the portion recorded in High Speed Recording mode is played back, a black band appears at the top and bottom of the screen, and the recorded image is displayed in the centre of the screen.

3 SELECT MODE

Press **HIGH SPEED** on the camcorder. By pressing it, the screen is switched as follows:

Slow-Motion with Wide mode → Slow-Motion with Zoom mode → Playback → Slow-Motion with Wide mode...

To Search In Rewind Or Forward...

..... press **SLOW** (◀) on the remote control to view reverse Slow-Motion. Press **SLOW** (▶) on the remote control to return to forward Slow-Motion.

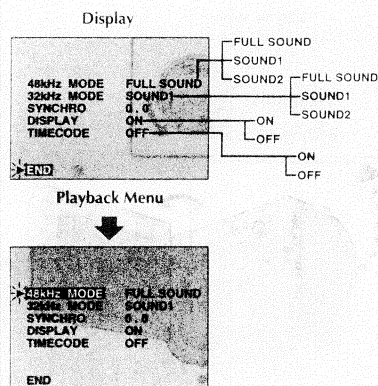
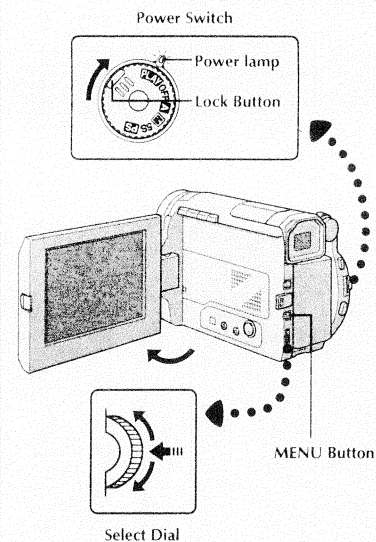
- To protect the video heads, Progressive Slow-Motion Playback is performed only up to 2 minutes in Slow Forward and only up to 1 minute in Slow Rewind.

4 END PLAYBACK

Press **STOP** (■).

NOTES:

- Progressive Slow-Motion Playback is possible only with a tape recorded in High Speed Recording mode (pg. 42).
- In Slow-Motion with Wide mode, the area where the image is played back is half the height of the screen.
- If images recorded in High Speed Recording mode are played back in a video unit other than GR-DVL9600/DVL9500, the screen will appear divided into 2, and the images are displayed both in the upper and lower halves of the screen.
- Since in Slow-Motion with Zoom mode the image is magnified with an aspect ratio of 4:3, the image may become coarse.
- If a tape recorded in High Speed Recording mode is dubbed between 2 video units (except when the player is GR-DVL9600 or GR-DVL9500 and the recorder is GR-DVL9600), Progressive Slow-Motion Playback of the dubbed tape is not possible.
- During Progressive Slow-Motion Playback, the following functions are disabled: "CLASSIC FILM", "STROBE" and "VIDEO ECHO" of Playback Special Effects (pg. 57).
- If the tape reaches a portion which was not recorded in High Speed Recording mode during Progressive Slow-Motion Playback, Progressive Slow-Motion changes to normal Slow-Motion.
- During Progressive Slow-Motion Playback, use the remote control to activate Pause mode. If **PLAY/PAUSE** on the camcorder is pressed, Slow-Motion will be released and normal Slow-Motion will start.
- During reverse search of Progressive Slow-Motion Playback, the camcorder's display may also be divided into 2, and the images will be displayed both in the upper and lower halves of it.
- When "HIGH SPEED" is displayed: To make the indications disappear from the connected TV monitor, press **DISPLAY** on the remote control. To make the indications disappear from the LCD monitor, press **IND. ON/OFF** on the camcorder.



Playback Menu

The Playback Menu allows you to set the following functions:

Playback Sound (32 kHz, 48 kHz), Synchro Comp, Display and Time Code. The following procedure applies to all except Synchro Comp (pg. 62, 63).

1 SELECT OPERATION MODE

Set the Power Switch to "PLAY" while pressing down the Lock Button located on the switch, and pull out the viewfinder fully or open the LCD monitor fully.

2 ACCESS PLAYBACK MENU

Press MENU. The Playback Menu appears.

3 SELECT FUNCTION

Move the highlight bar to the desired function by rotating the Select Dial. Press the Select Dial to activate.

4 SET FUNCTION PARAMETERS

Rotate the Select Dial to cycle through the available settings for the selected function, and stop when the desired setting appears. Then press the Select Dial, and the highlight bar automatically moves to "END".

- To set parameters for other functions, repeat steps 3 and 4.

5 CLOSE MENU

Press the Select Dial again, and the menu disappears.

Playback Sound

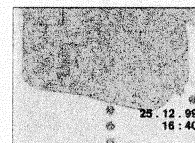
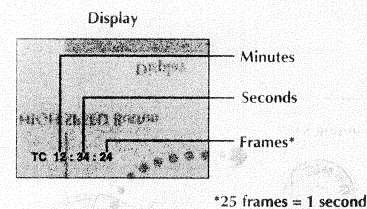
During playback, the camcorder detects the sound mode in which the recording was made, and plays the sound back. Select the type of sound to accompany your playback picture. (32 kHz is preset to "SOUND 1" and 48 kHz is preset to "FULL SOUND".)

Recording sound	Display	Output sound
32 kHz	FULL SOUND	Stereo sound
	SOUND 1	
	SOUND 2	
48 kHz	FULL SOUND	Stereo sound
	SOUND 1	"L" sound is output on both channels
	SOUND 2	"R" sound is output on both channels

When watching a tape recorded at 32 kHz, if you want to change the output sound, access the Playback Menu and, in step 3 on page 46, select "32kHz MODE" and set it for "FULL SOUND", "SOUND 1" or "SOUND 2". When playing back a tape recorded at 48kHz, set in the same manner.

NOTES:

- You can also use the provided RM-V711U remote control's **AUDIO MONITOR** button to change the output sound (without having to access the Playback Menu). Make sure you point the remote control at the camcorder's remote sensor.
- During playback, the camcorder detects the sound mode in which the recording was made. This detection cannot be made during fast-forward or rewind. During playback the sound mode is displayed in the upper left corner.



TIME CODE

(Displaying The Time Code During Playback)

You can display the Time Code on screen during playback. This is especially useful for editing. This function is preset to "OFF". To turn it on, select "TIME CODE" at the Playback Menu and change the setting (pg. 46).

ON- The Time Code is displayed on the playback screen.

OFF- The Time Code does not appear.

DISPLAY

(Displaying the Date During Playback)

If the time has been set, the date is automatically recorded separately from the recorded video signal. You can display or remove the date anytime during playback. This function is preset to "ON". To turn it off, select "DISPLAY" at the Playback Menu and change the setting (pg. 46).

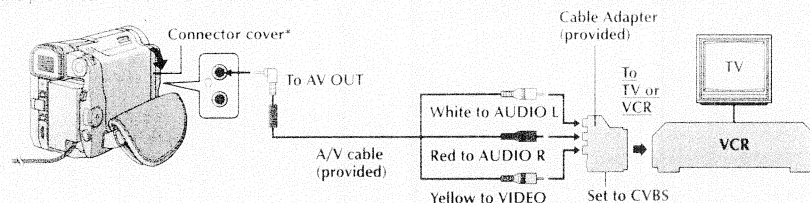
ON- The date is displayed on the playback screen.

OFF- The date is not displayed.

These are some basic types of connections. When making the connections, refer also to your VCR and TV instruction manuals.

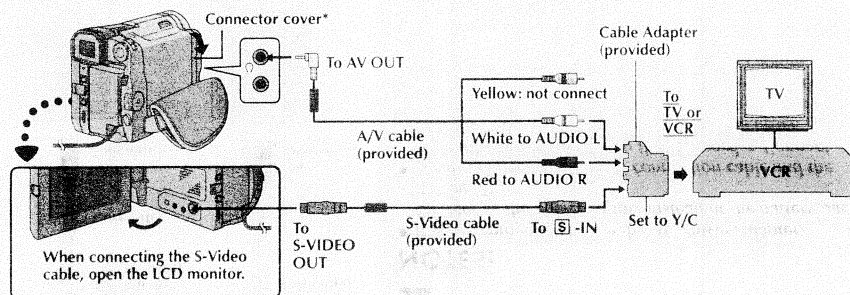
A. Connection to a TV or VCR equipped with a SCART connector compatible only with regular video signal

Use the provided Audio/Video (A/V) cable.



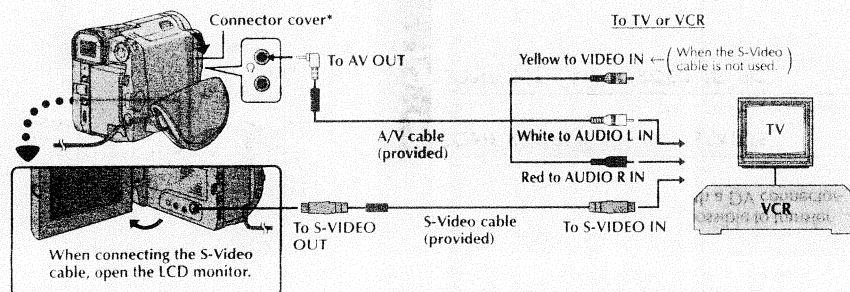
B. Connection to a TV or VCR equipped with a SCART connector compatible with Y/C signal

Use the provided Audio/Video (A/V) cable and S-Video cable.



C. Connection to a TV or VCR equipped with an S-VIDEO IN and/or A/V input (RCA type) connectors

Use the provided Audio/Video (A/V) cable and S-Video cable.



* When connecting the cables, open this cover.

1 CONFIRM POWER-OFF STATUS

Make sure the camcorder's power is off.

2 CONNECT CAMCORDER TO TV OR VCR

Pull out the connector cover and open it. Connect as shown in the illustration (pg. 48).

If Using A VCR ... go to step 3.
If not ... go to step 4.

3 CONNECT VCR OUTPUT TO TV INPUT

Refer to your VCR's instruction manual.

4 SUPPLY POWER

Turn on the camcorder, the VCR and the TV.

5 SELECT MODE

Set the VCR to its AUX input mode, and set the TV to its VIDEO mode.

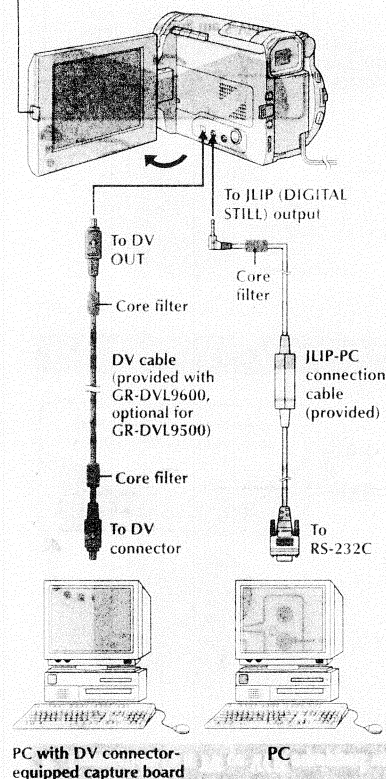
To choose whether or not the following displays appear on the connected TV ...

- Date/Time, Time Code
... set to "ON" or "OFF" in the Playback Menu (pg. 46).
- Playback Sound Mode Display
... set the Power Switch to the camera position ("M", "5S" or "PS") and press MENU. Set "ON SCREEN" in the Date/Time Menu (pg. 8) to "ON" or "OFF". Then set the Power Switch back to "PLAY".

NOTES:

- It is recommended to use the AC Power Adapter/Charger as the power supply instead of the battery pack. (pg. 7)
- Never connect any other Audio/Video cable than the provided Audio/Video cable to the camcorder's AV OUT connector.
- When using the provided cables, make sure you connect the end of the cable with the core filter to the camcorder. The core filter reduces interference.
- To monitor the picture and sound from the camcorder without inserting a tape, set the camcorder's Power Switch to the camera position ("A", "M", "5S" or "PS"), then set your TV to the appropriate input mode.
- Make sure you adjust the TV sound volume to its minimum level to avoid a sudden burst of sound when the camcorder is turned on.
- If you have a TV or speakers that are not specially shielded, do not place the speakers adjacent to the TV as interference will occur in the camcorder playback picture.
- To keep the camcorder's display from appearing on the TV screen during playback, press IND. ON/OFF for longer than 1 second (pg. 15).
- While the Audio/Video cable is connected to the AV OUT connector, sound cannot be heard from the speaker.
- Set the video out select switch of the cable adapter as required:
Y/C: When connecting to a TV or VCR which accepts Y/C signals and uses an S-Video cable.
CVBS: When connecting to a TV or VCR which does not accept Y/C signals and uses an audio/video cable.

PUSH-OPEN Button



Connection To A Personal Computer

This camcorder can transfer still images to a personal computer by using the provided software when connected as shown in the illustration. It is also possible to transfer still images to a personal computer with a DV connector-equipped capture board installed.

1 CONFIRM POWER-OFF STATUS

Make sure the camcorder and PC are turned off.

2 CONNECT CAMCORDER TO PC

Press **PUSH-OPEN** and open the LCD monitor fully. Connect the camcorder to a PC using the cable according to your PC type as shown in the illustration.

3 TURN ON POWER

Turn the camcorder's Power Switch to "**PLAY**" while pressing down the Lock Button located on the switch and turn on the PC.

NOTES:

- It is recommended to use the AC Power Adapter/Charger as the power supply instead of the battery pack (pg. 7).
- Never connect the JLIP-PC connection cable and the DV cable simultaneously to the camcorder. Connect only the cable you wish to use to the camcorder.
- The date/time information cannot be captured into PC.
- Also refer to the instruction manuals of the provided Software and the DV connector-equipped capture board.
- Be sure to use a DV cable with the core filter. The core filter reduces interference.
- Be sure to wind the DV cable twice around the core filter attached to the end connected to the camcorder.

Connection To A Video Unit Equipped With A DV Connector

Connection to the Digital Printer GV-DT3 (optional) allows you to print out the images or to transfer the captured image from the Digital Printer to a personal computer. It is also possible to copy recorded scenes from the camcorder onto another video unit equipped with a DV connector. This function is called Digital Dubbing (pg. 53), which offers virtually no image or sound deterioration.

1 CONFIRM POWER-OFF STATUS

Make sure all the units are turned off.

2 CONNECT CAMCORDER TO PRINTER OR VIDEO UNIT EQUIPPED WITH DV INPUT CONNECTOR

Press **PUSH-OPEN** and open the LCD monitor fully. Make connections to the device you want to connect to using the DV cable, as shown in the illustration.

3 CONNECT PRINTER TO PC (IF NECESSARY)

Connect the JLIP-PC connection cable (provided) to the printer's PC connector and the PC's RS-232C connector.

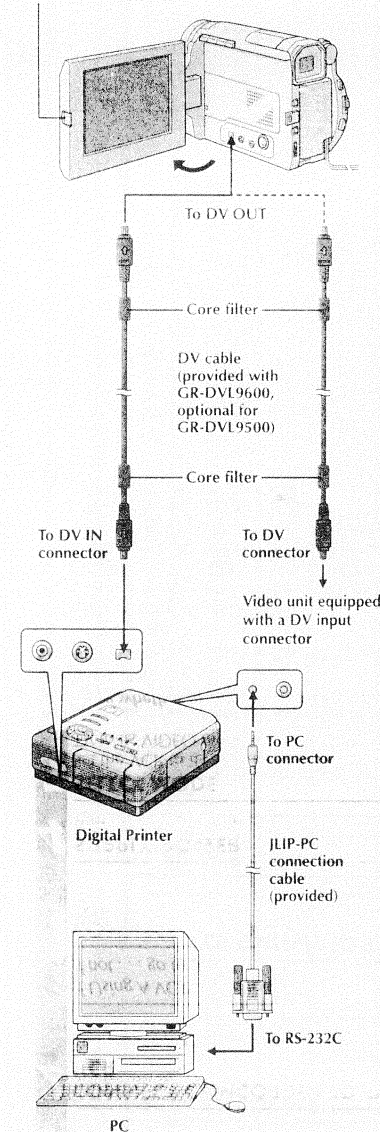
4 TURN ON POWER

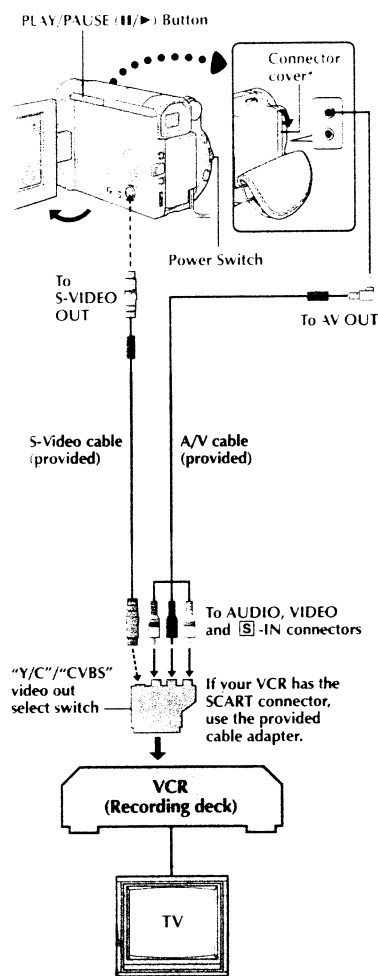
Turn the camcorder's Power Switch to "**PLAY**", "**A**" or "**M**" while pressing down the Lock Button located on the switch and turn on the other units.

NOTES:

- It is recommended to use the AC Power Adapter/Charger as the power supply instead of the battery pack. (pg. 7)
- For Digital Dubbing, the GR-DVL9600 or GR-DVL9500 can be connected only to one device at a time. The GR-DVL9600 can also be used as a recorder. When using the GR-DVL9500 for dubbing, be sure to use it as a player. The GR-DVL9500's DV connector is only for output.
- Also refer to the instruction manuals of the connected units.
- Be sure to use a DV cable with the core filter.
- Be sure to wind the DV cable twice around the core filter attached to the end connected to the camcorder.

PUSH-OPEN Button





• When connecting the cables, open this cover.

Tape Dubbing

1 CONNECT EQUIPMENT

Following the illustration at left, connect the camcorder and the VCR. Also refer to pg. 43 and 49.

2 PREPARE FOR DUBBING

Set the camcorder's Power Switch to **PLAY**, turn on the VCR's power, and insert the appropriate cassettes in the camcorder and the VCR.

3 SELECT VCR MODE

Engage the VCR's AUX and Record-Pause modes.

4 FIND EDIT-IN POINT

Engage the camcorder's Play mode to find a spot just before the edit-in point. Once it is reached, press **PLAY/PAUSE (II/III)** on the camcorder.

5 START EDITING

Press **PLAY/PAUSE (II/III)** on the camcorder and engage the VCR's Record mode.

6 STOP EDITING TEMPORARILY

Engage the VCR's Record-Pause mode and press **PLAY/PAUSE (II/III)** on the camcorder.

7 EDIT MORE SEGMENTS

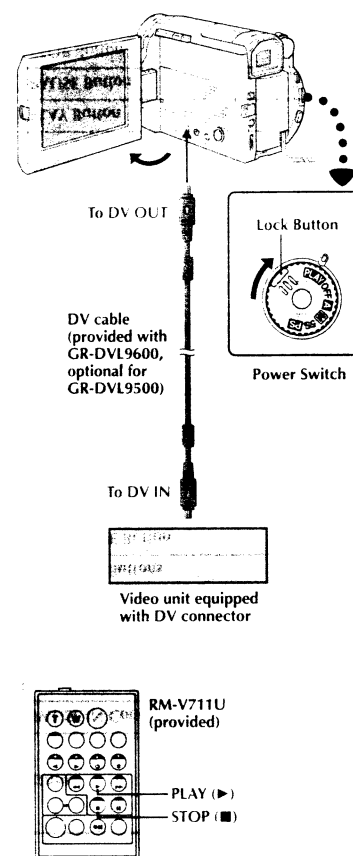
Repeat steps 4 through 6 for additional editing, then stop the VCR and camcorder when finished.

NOTES:

- You can use **Playback Zoom** (pg. 56) or **Playback Special Effects** (pg. 57) in step 5.
- Before you start dubbing, make sure that the indications **do not** appear on the connected TV. If they do appear **during** dubbing, they are being recorded onto the new tape.
- To clear the Playback Sound Mode Display, press **DISPLAY** on the RM-V711U remote control (provided).
- Select "DISPLAY" and "TIME CODE" from the Playback Menu (pg. 46) to show or hide the Date/Time and the Time Code on the recording.
- To show or hide all indications, press **IND. ON/OFF** on the camcorder for longer than 1 second (pg. 15).
- Set the video out select switch of the cable adapter as required:
Y/C: When connecting to a TV or VCR which accepts Y/C signals and uses an S-Video cable.
CVBS: When connecting to a TV or VCR which does not accept Y/C signals and uses an audio/video cable.

Digital Dubbing

It is also possible to copy recorded scenes from the camcorder onto other video unit equipped with a DV connector, since a digital signal is sent, there is little if any image or sound deterioration.



1 CONFIRM POWER-OFF STATUS

Make sure the camcorder's power is off.

2 MAKE CONNECTIONS

Connect the camcorder to your video unit equipped with a DV connector using the DV cable as shown in the illustration.

3 START PLAYBACK

Press **PLAY (II)** to play back the source tape.

4 START RECORDING

While watching the playback on the monitor, engage the DV connector-equipped video unit's record mode from the spot on the source tape you want to begin recording.

NOTES:

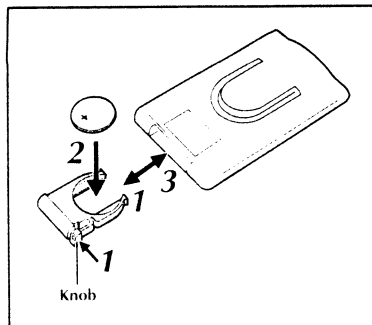
- It is recommended to use the AC Power Adapter/Charger as the power supply instead of the battery pack (pg. 7).
- For Digital Dubbing, the GR-DVL9600 or GR-DVL9500 can be connected only to one device at a time. The GR-DVL9600 can also be used as a recorder. When using the GR-DVL9500 for dubbing, be sure to use it as a player. The GR-DVL9500's DV connector is only for output.
- If a blank portion is played back during dubbing, an unusual image may be dubbed.
- Even though the DV cable is connected correctly, sometimes the image may not appear in step 3. If the above occurs, turn off power and make connections again.
- If "Playback Zoom" (pg. 56), "Playback Special Effects" (pg. 57) or "Snapshot" is attempted during playback, only the original playback image recorded on the tape is output from the DV OUT connector.
- During Digital Dubbing, the scenes recorded in High Speed Recording mode are divided into 2, and the image is displayed both in the upper and lower halves of the screen (pg. 45).
- Be sure to use a DV cable with the core filter.
- Be sure to wind the DV cable twice around the core filter attached to the end connected to the camcorder.

To Use This Camcorder As A Recorder (GR-DVL9600 only) . . .

1. Turn the Power Switch to **PLAY** while pressing down the Lock Button located on it.
2. Connect the DV cable as shown in the illustration and load a cassette to record on.
3. Press the Recording Start/Stop Button to engage the Record-Pause mode. "DV IN" appears on the screen.
4. Press the Recording Start/Stop Button to start recording. "DV IN" changes to "DV IN".
5. Press the Recording Start/Stop Button again to engage the Record-Pause mode. "DV IN" returns to "DV IN".

NOTES:

- During Digital Dubbing, the image is dubbed using the recording mode selected in the Recording Menu (pg. 10).
- Digital Dubbing is performed in the sound mode recorded on the original tape, regardless of the current "SOUND MODE" setting (pg. 30).



The Full-Function Remote Control Unit can operate this camcorder from a distance as well as the basic operations (Playback, Stop, Pause, Fast-Forward and Rewind) of your VCR. This remote control unit makes additional playback functions possible.

Installing The Battery

The remote control uses one lithium battery (CR2025).

1 PULL OUT BATTERY HOLDER

Pull out the battery holder while pressing the knob as shown.

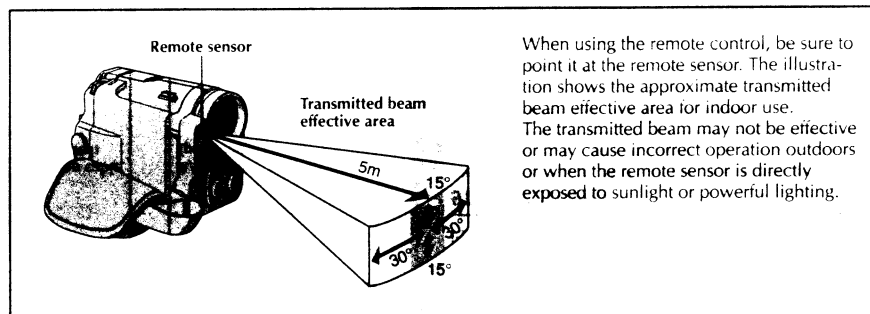
2 INSERT BATTERY IN HOLDER

Insert the battery in the holder, and be sure to have the "+" mark visible.

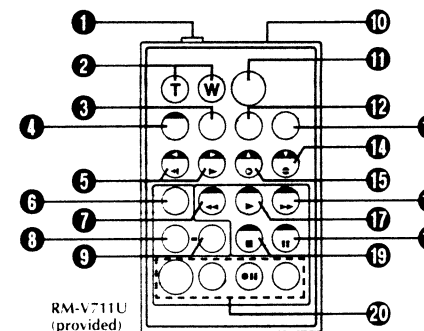
3 RE-INSERT HOLDER

Slide the holder back in until you hear a click.

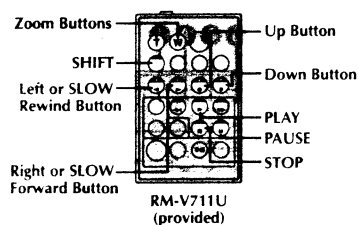
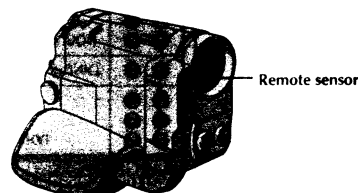
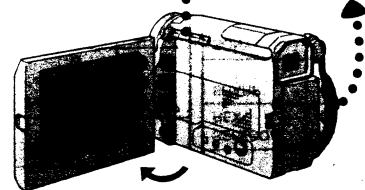
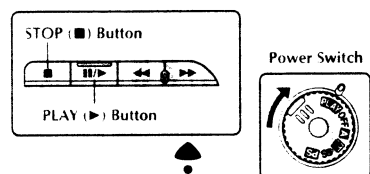
- Read the caution concerning lithium batteries (pg. 2).



When using the remote control, be sure to point it at the remote sensor. The illustration shows the approximate transmitted beam effective area for indoor use. The transmitted beam may not be effective or may cause incorrect operation outdoors or when the remote sensor is directly exposed to sunlight or powerful lighting.



Buttons	Functions	
	With the camcorder's Power Switch set to the camera position ("A", "M", "SS" or "PS").	With the camcorder's Power Switch set to "PLAY".
1 PAUSE IN Connector	—	pg. 59
2 Zoom (T/W) Buttons	Zoom in/out (pg. 18)	Zoom in/out (pg. 56)
3 DISPLAY Button	—	pg. 52
4 SHIFT Button	—	pg. 56
5 SLOW Rewind/Forward Buttons Left/Right Buttons	—	pg. 56 pg. 56
6 FADE/WIPE Button	—	pg. 59
7 REW Button	—	Rewind, Reverse Shuttle Search (pg. 43, 44)
8 EFFECT Button	—	pg. 57
9 EFFECT ON/OFF Button	—	pg. 57
10 Infrared beam transmitting window	Transmits the beam signal.	
11 START/STOP Button	Functions same as the Recording Start/Stop button on the camcorder.	
12 AUDIO MONITOR Button	—	pg. 47
13 MBR SET Button	—	pg. 58
14 Down Button A. DUB Button	— —	pg. 56 pg. 64
15 Up Button INSERT Button	— —	pg. 56 pg. 65
16 FF Button	—	Fast-Forward, Forward Shuttle Search (pg. 43, 44)
17 PLAY Button	—	Playback start (pg. 43)
18 PAUSE Button	—	Pause (pg. 44)
19 STOP Button	—	Stop (pg. 43)
20 R.A.EDIT Buttons	—	pg. 58 - 63



To move image, press (Right) while keeping SHIFT held down

FEATURE: Slow-Motion Playback

PURPOSE:

To allow slow-speed search in either direction.

OPERATION:

- 1) To change from normal to Slow-Motion Playback, press PAUSE (II) at the point where you want to start playback in slow motion.
- 2) Press SLOW (◀ or ▶). After playing back for approx. 1 minute in Slow Rewind or approx. 2 minutes in Slow Forward, normal playback resumes.
- To stop Slow-Motion Playback in progress, press PLAY (▶).

NOTES:

- During Slow-Motion Playback, due to digital image processing, the picture may take on a mosaic effect.
- After SLOW (◀ or ▶) is pressed, the still image may be displayed for a few seconds, then the screen may become blue back for a few seconds. This is not a malfunction.
- There may be a small margin between the slow-motion playback start point you chose and the start point at which the camcorder actually begins playback in slow motion.
- During Slow-Motion Playback, there will be disturbances in video. This is not a malfunction.
- During Slow-Motion Playback, press PAUSE (II) to pause playback.

FEATURE: Frame-By-Frame Playback

PURPOSE:

To allow frame-by-frame search.

OPERATION:

- 1) To change from normal to Frame-By-Frame Playback, press PAUSE (II) at the point where you want to start Frame-By-Frame Playback.
- 2) Press PAUSE (II) repeatedly. Each time it is pressed, the frame is played back.

FEATURE: Playback Zoom

PURPOSE:

To magnify the recorded image up to 10X at any time during playback.

OPERATION:

- 1) Press PLAY (▶) to find the scene of interest.
- 2) Press the Zoom Buttons (T/W) on the remote control. Make sure the remote control is pointed at the camcorder's remote sensor. Pressing T zooms in.
- 3) You can move the image on screen around to find a particular portion of the picture. While holding down SHIFT, press (Left), (Right), (Up) and (Down).
- To end zoom, press and hold W until magnification returns to normal. Or, press STOP (■) and then press PLAY (▶).

NOTES:

- Zoom can also be used during slow-motion and still playback.
- During digital image processing, the quality of the image may suffer.

FEATURE: Playback Special Effects

PURPOSE:

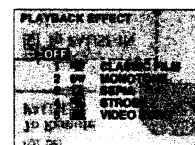
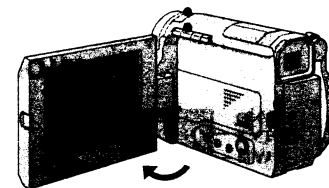
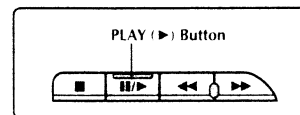
To allow you to add creative effects to the playback image. You can use any one of the 5 effects.

OPERATION:

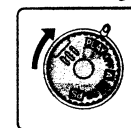
- 1) To start playback, press PLAY (▶).
- 2) Point the remote control at the camcorder's remote sensor and press EFFECT. The PLAYBACK EFFECT Select Menu appears.
- 3) Move the highlight bar to the desired effect by pressing EFFECT. The selected function is activated and after 2 seconds the menu disappears.
- To deactivate the selected effect, press EFFECT ON/OFF on the remote control. Pressing it again re-activates the selected effect.
- To change the selected effect, repeat from step 2 of the above "OPERATION".

NOTES:

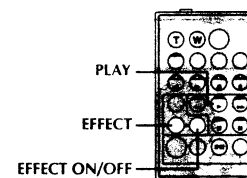
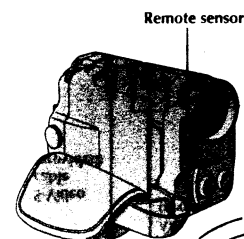
- When Playback Special Effects are used, the Multi-Analyser 4 and Multi-Analyser 9 Snapshot modes (pg. 25) are not available.
- For images recorded in High Speed Recording mode, "CLASSIC FILM", "STROBE" and "VIDEO ECHO" are disabled.
- The effects that can be used during playback are Classic Film, Monotone, Sepia, Strobe and Video Echo. The effects work the same in playback as they did in recording. Refer to page 35 for more information.



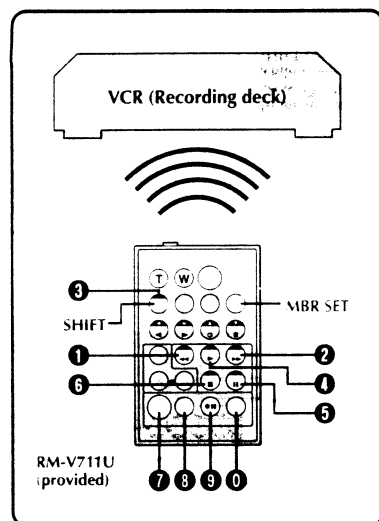
PLAYBACK EFFECT Select Menu



Power Switch



RM-V711U (provided)



VCR CODE LIST

VCR BRAND NAME	BUTTONS (A) (B)	VCR BRAND NAME	BUTTONS (A) (B)
AKAI	6 2 6 4 7 7	PHILIPS	1 9 9 5 1 1 9 4 9 1 9 6 1 2 9 3 7 2
BLAUPUNKT	1 3	SANYO	9 6 9 5
FERGUSON	9 7 9 8 9 2	SELECO, REX	9 4 9 6
GRUNDIG	1 4 9 4	SHARP	1 5 1 0
HITACHI	9 6 9 3	SONY	6 5 6 0 9 9 9 1
JVC A B C	9 1 9 6 9 3	THOMSON, TELEFUNKEN, SABA, NORDMENDE	9 4 9 6 9 7 9 2
MITSUBISHI	6 7 6 8	TOSHIBA	6 9 6 1
NEC	9 7 9 8		
PANASONIC	1 3 1 1 1 1 9 4 1 8		

Random Assemble Editing [R.A.Edit]

Create edited videos easily using your camcorder as the source player. You can select up to 8 "cuts" for automatic editing, in any order you like. R.A.Edit is more easily performed when the RM-V711U MBR Multi-Brand Remote (pg. 54) is set to operate with your brand of VCR (see VCR CODE LIST), but can also be performed by operating the VCR manually.

Before operation, make sure the lithium battery is installed in the remote control RM-V711U (pg. 54).

SET REMOTE/VCR CODE

1 SET REMOTE TO OPERATE VCR

Turn off the power to the VCR and point the remote towards the VCR's infrared sensor. Then, referring to the VCR CODE LIST on the left, press and hold **MBR SET**, and press button (A) and then (B).

- The code is automatically set once you release **MBR SET**, and the VCR's power comes on.

2 OPERATE VCR

Make sure the VCR's power is on. Then, while holding **SHIFT**, press the button on the remote for the desired function. The functions the remote can control are PLAY, STOP, PAUSE, FF, REV and VCR REC STBY (you do not need to press **SHIFT** for this one).

You are now ready to try Random Assemble Editing.

IMPORTANT

Although the MBR is compatible with JVC VCRs and those of many other makers, it may not work with yours or may offer limited functions.

NOTES:

- If the VCR's power does not come on in step 1, try another code from the VCR CODE LIST.
- Some brands of VCR do not come on automatically. In this case, turn the power on manually and try step 2.
- If the remote control is not able to control the VCR, use the controls on the VCR.
- When the remote control's battery runs out, the VCR brand you have set will be erased. In that case, replace the old battery with a new one to reset the VCR brand.

MAKE CONNECTIONS

Also refer to pg. 48, 49 and 51.

1 CONNECT TO . . .

A JVC VCR EQUIPPED WITH REMOTE PAUSE TERMINAL

Connect the editing cable to the Remote PAUSE terminal.

B JVC VCR NOT EQUIPPED WITH REMOTE PAUSE TERMINAL BUT EQUIPPED WITH R.A. EDIT CONNECTOR

Connect the editing cable to the R.A.EDIT connector.

C VCR OTHER THAN TYPE A OR B

Connect the editing cable to the RM-V711U's PAUSE-IN connector.

2 PREPARE CAMCORDER

Insert a recorded tape and set the Power Switch to "PLAY".

3 PREPARE VCR

Turn the power on, insert a recordable tape and engage the AUX mode (refer to VCR's instructions).

SELECT SCENES

4 START SOURCE PLAYBACK

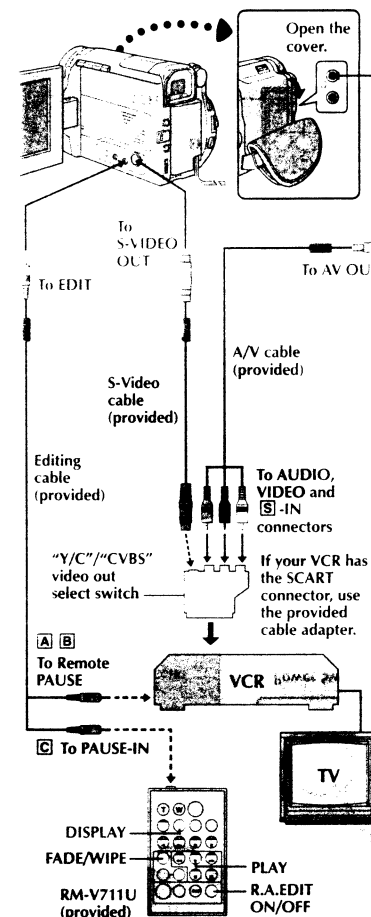
First set the Power Switch to "PLAY" while pressing down the Lock Button located on it. Press **PLAY** (▶) and then press **R.A. EDIT ON/OFF** on the remote control. Make sure to point the remote control at the camcorder's remote sensor.

- The Random Assemble Editing Menu appears.

5 EXECUTE FADE/WIPE IN (IF NECESSARY)

Press **FADE/WIPE** on the remote control.

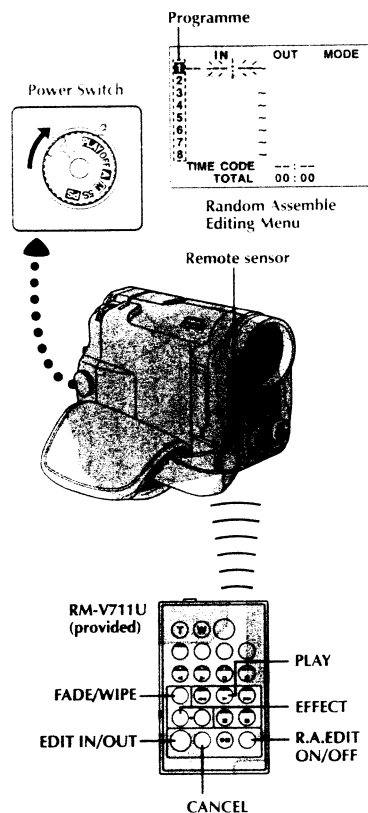
- Cycle through the effects by pressing repeatedly, and stop when the one you want is displayed.
- You cannot use a Picture Wipe/Dissolve at the beginning of Programme 1.



NOTES:

- Before Random Assemble Editing, make sure the indications do not appear on the TV monitor. If they appear during Random Assemble Editing, they will be recorded onto the new tape. To clear the Playback Sound Mode Display, press **DISPLAY** on the remote control. Select "DISPLAY" and "TIME CODE" from the Playback Menu (pg. 46) to show or hide the Date/Time and the Time Code on the recording. To show or hide all indications except for the Random Assemble Editing Menu, press **IND. ON/OFF** on the camcorder for longer than 1 second. When Random Assemble Editing starts, its indications disappear and are not recorded on the new tape.
- When editing on a video unit equipped with DV input connector, the DV cable can be connected instead of the S-Video cable and Audio/Video cable.
- Set the video out select switch of the cable adapter as required:
Y/C: When connecting to a TV or VCR which accepts Y/C signals and uses an S-Video cable.
CVBS: When connecting to a TV or VCR which does not accept Y/C signals and uses an audio/video cable.

CONTINUED ON NEXT PAGE

**NOTES:**

- When the source tape has more than 2 identical time codes (pg. 19), the camcorder may not find the Edit-In point you chose and a malfunction may occur.
- When choosing a scene, set Edit-In and Edit-Out points so that there is a relatively large difference between them.
- If the search time for an in-point exceeds 5 minutes, the recording deck's Record-Standby mode will be cancelled and editing will not take place.
- If there are blank portions before or after the Edit-In and Edit-Out points, a blue-backed screen may be included in the edited version.
- Since time codes register time only as accurately as seconds, the time code total time may not match the total programme time exactly.
- Turning off the camcorder's power erases all registered Edit-In and Edit-Out points.
- If you select Sepia or Monotone mode from Programme AE with special effects, you cannot use the Dissolve or Black & White Fader. In this case the Dissolve or Black & White indicator begins blinking. Once the next Edit-In point is registered, the effect is turned off. To combine these effects, use Sepia or Monotone during recording, then use Dissolve or Black & White Fader during Random Assemble Editing.
- It is not possible to use Fade/Wipe effects and Programme AE with special effects during Random Assemble Editing using a DV cable.

SELECT SCENES (cont.)**6 SET EDIT-IN POINT**

At the beginning of the scene, press **EDIT IN/OUT** on the remote control. The Edit-In position appears on the Random Assemble Editing Menu.

7 SET EDIT-OUT POINT

At the end of the scene, press **EDIT IN/OUT**. The Edit-Out position appears on the Random Assemble Editing Menu.

8 USE FADE/WIPE ON SCENE TRANSITION (IF NECESSARY)

Press **FADE/WIPE**.

- Cycle through the effects by pressing repeatedly, and stop when the one you want is displayed.
- If you select a Fade/Wipe effect for an Edit-Out point, the effect is automatically applied to the following Edit-In point.
- You cannot use a Picture Wipe/Dissolve at the end of the last scene.
- When you use Fade/Wipe effects, that time is included in the total time (this does not apply to Picture Wipe/Dissolve).

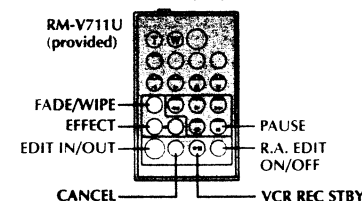
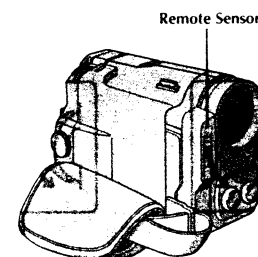
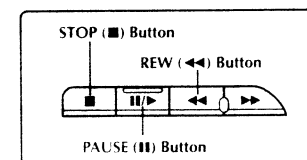
9 USE PLAYBACK SPECIAL EFFECTS (IF NECESSARY, pg. 57)

Press **EFFECT**.

10 REGISTER ADDITIONAL SCENES

Repeat steps 6 through 9.

- To change previously registered points, press **CANCEL** on the remote control. The registered points disappear, one at a time, from the most recently registered point.
- If you are not using Fade/Wipe or Programme AE with special effects, repeat steps 6 and 7 only.

**AUTOMATIC EDITING TO VCR****11 PREPARE SOURCE TAPE**

Rewind the tape in the camcorder to the beginning of the scene you want to edit and press **PAUSE ||**.

12 ENGAGE VCR'S RECORD-PAUSE MODE

Point the remote control towards the VCR's remote sensor and press **VCR REC STBY (● ||)** or manually engage the VCR's Record-Pause mode.

13 START EDITING

Press the Recording Start/Stop Button on the camcorder. Editing proceeds as programmed, right through to the end of the last registered scene.

- Pressing **START/STOP** on the remote control does not start editing.
- When dubbing is complete, the camcorder enters the Pause mode, and the recording deck enters its Record-Standby mode.
- If you do not register an Edit-Out point, the tape will be dubbed all the way to the end automatically.

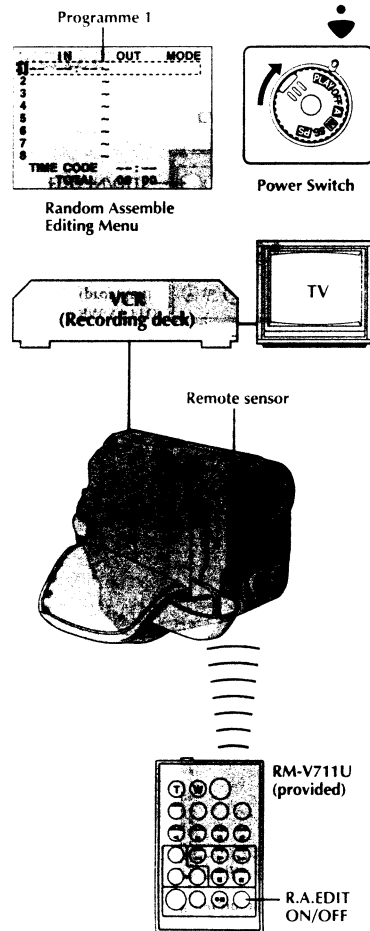
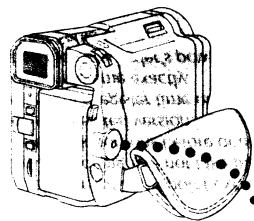
14 STOP EDITING

Engage the Stop modes for the camcorder and the VCR.

To make the R.A. Edit counter display disappear, press **R.A. EDIT ON/OFF** on the remote control.

NOTES:

- Pressing **R.A. EDIT ON/OFF** on the remote control clears all settings registered during Random Assemble Editing.
- When the editing cable is connected to the Pause terminal during dubbing, make sure the remote control is pointed at the VCR's sensor, and that the path between the two is unobstructed.
- Random Assemble Editing may not function properly when using a tape including several duplicated Time Codes (pg. 19).



For More Accurate Editing

Some VCRs make the transition from Record-Standby to Record mode faster than others. Even if you begin editing for the camcorder and the VCR at exactly the same time, you may lose scenes you wanted, or find that you have recorded scenes you did not want. For a cleanly edited tape, confirm and adjust the timing of the camcorder against your VCR.

DIAGNOSING VCR'S AGAINST CAMCORDER TIMING

1 PREPARE FOR R.A. EDIT

Play back the tape in the camcorder, then point the remote control at the camcorder's remote sensor and press **R.A. EDIT ON/OFF**.

- "Random Assemble Editing Menu" appears.

2 CHOOSE A SCENE

Perform Random Assemble Editing on Programme 1 only. In order to check VCR and camcorder timing, select the beginning of a scene transition as your Edit-In point.

3 PLAY BACK DUBBED SCENE

- If any images from the scene prior to the transition you chose for your Edit-In point were recorded, that means your VCR moves quickly from Record-Pause to Record mode.
- If the scene you tried to dub starts in progress, the VCR is slow to start recording.

ADJUSTMENT OF VCR'S AGAINST CAMCORDER TIMING

4 ACCESS PLAYBACK MENU

Point the remote control at the camcorder's remote sensor and press **R.A. EDIT ON/OFF** to make the Random Assemble Editing menu disappear, then press **MENU**. The Playback Menu appears.

5 SELECT FUNCTION

Move the highlight bar to **SYNCHRO** by rotating the Select Dial, then press it. The value for "SYNCHRO" is highlighted.

6 INPUT CORRECTION DATA

Based on the diagnostics performed (pg. 62), you can now increase the VCR's speed by rotating the Select Dial upward. You can also slow down the VCR's speed by rotating the Select Dial downward. The adjustment range is from -1.3 to +1.3 seconds, in 0.1-second increments.

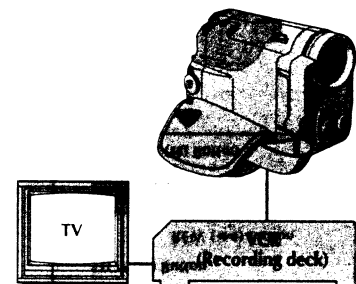
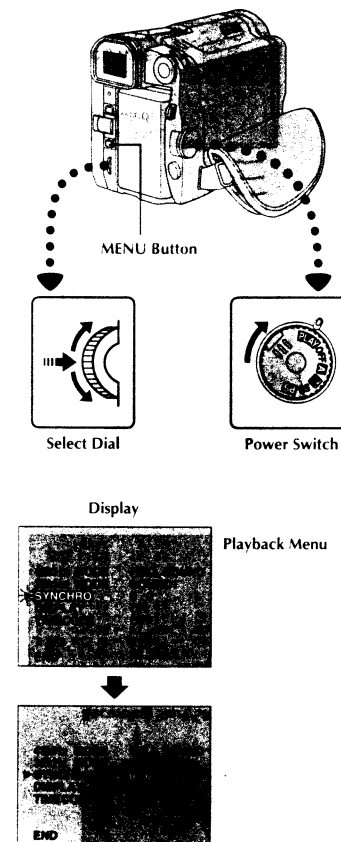
7 CLOSE MENU

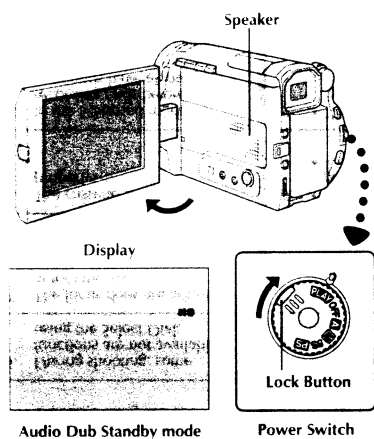
Press the Select Dial twice.

- Now perform Random Assemble Editing beginning with step 4 on page 59.

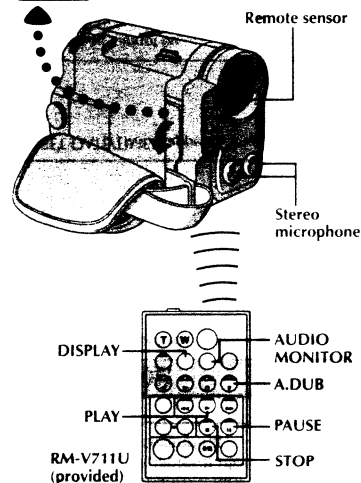
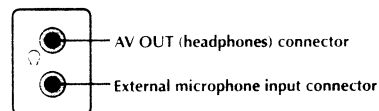
NOTES:

- Before performing actual Random Assemble Editing, do a few Random Assemble Editing trial runs to check whether the value you have input is appropriate or not, and make adjustments accordingly.
- Depending on the recorder, there may be situations where the timing difference cannot be fully corrected.





Located beneath the cover.



Audio Dubbing

The audio track can be customized only when recorded on the 32 kHz mode (pg. 40).

NOTES:

- Audio Dubbing is not possible on a tape recorded at 48 kHz, on a tape recorded in the LP mode or on a blank portion of a tape.
- To perform Audio Dubbing while watching in the television, make connections (pg. 48).

1 FIND EDIT-IN POINT

Play back the tape to locate the point where editing will start, then press PAUSE (II).

2 ENGAGE AUDIO DUB STANDBY

While holding A. DUB (III) on the remote control, press PAUSE (II). "II" appears.

3 BEGIN DUBBING

Press PLAY (I), then begin "narrating".

- Speak into the microphone.

4 PAUSE DURING DUBBING

Press PAUSE (II).

5 STOP DUBBING

Press STOP (IV).

NOTES:

- While an optional microphone is connected, the built-in microphone is disabled.
- When editing onto a tape that was recorded at 32 kHz, the old and new soundtracks are recorded separately.
- To select the desired sound for playback, press AUDIO MONITOR on the remote control.
- If you dub onto a blank space on the tape, the sound may be disrupted. Make sure you only edit recorded areas.
- If feedback or howling occurs during TV Playback, move the camcorder's microphone away from the TV, or turn down the TV's volume.
- Sound is not heard from the speaker during Audio Dubbing. To hear sound, connect optional headphones to the AV OUT (headphones) connector.
- If you change from 32 kHz to 48 kHz in mid-recording and then use the tape for Audio Dubbing, it is not effective from the point where 48 kHz recording began.
- During Audio Dubbing, when the tape moves to scenes recorded in the LP mode, scenes recorded at 48 kHz or a blank portion, Audio Dubbing stops and "ERROR! REFER MANUAL" appears.

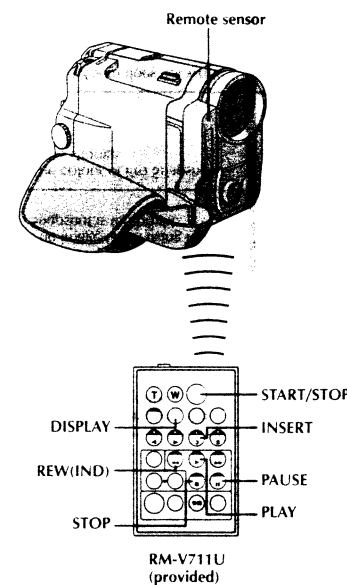
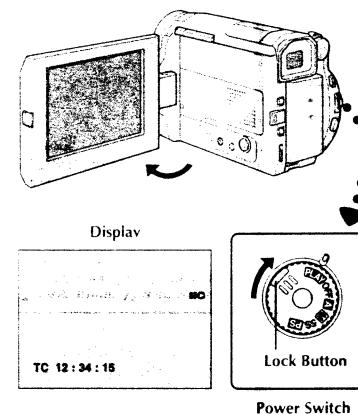
Recording sound	Display	Output sound
32 kHz	FULL SOUND	Original and new tracks are combined and output in stereo.
	SOUND 2	New track is output on both "L" and "R" channels in stereo.
	SOUND 1	Original track is output on both "L" and "R" channels in stereo.

Insert Editing

You can record a new scene into a previously recorded tape, replacing a section of the original recording with minimal picture distortion at the in- and out-points. The original audio remains unchanged.

NOTES:

- Insert Editing is not possible on a tape recorded in the LP mode or on a blank portion of a tape.
- To perform Insert Editing while watching in the television, make connections (pg. 48).



1 FIND EDIT OUT POINT

Playback the tape to locate the point where you want to stop editing. Confirm the time code at this point (pg. 47).

2 FIND EDIT IN POINT

Press REW (II) until the point is located, then press PAUSE (II).

3 PREPARE FOR INSERT EDITING

Press and hold INSERT (III) on the remote control, then press PAUSE (II). "II" and the Time Code (min.:sec.) appear and the camcorder enters Insert-Pause mode.

4 START RECORDING

Press START/STOP to begin editing.

- Confirm the insert at the time code you checked in step 1.

5 PAUSE DURING EDITING

Press START/STOP. The camcorder re-enters Insert Pause mode. Press again to resume editing.

6 STOP EDITING

Press STOP (IV) while the camcorder is in the Insert-Pause mode.

NOTES:

- Programme AE with special effects (pg. 34) can be used to spice up the scenes being edited during Insert Editing.
- To display the Time Code during Insert Editing, (pg. 46).
- When performing Insert Editing, the tape's Video Area and Sub-Code Area (pg. 4) are rewritten, so the date and time information changes.
- If you perform Insert Editing onto a blank space on the tape, the audio and video may be disrupted. Make sure you only edit recorded areas.
- During Insert Editing, when the tape moves to scenes recorded in the LP mode or a blank portion, Insert Editing stops and "ERROR! REFER MANUAL" appears.

If, after following the steps in the chart below, the problem still exists, please consult your nearest JVC dealer.

The camcorder is a micro computer-controlled device. External noise and interference (from a TV, a radio, etc.) might prevent it from functioning properly. In such cases, first disconnect its power supply unit (battery pack, AC Power Adapter/Battery Charger, etc.) and wait a few minutes; and then re-connect it and proceed as usual from the beginning.

SYMPTOM	POSSIBLE CAUSES	CORRECTIVE ACTION
1. No power is supplied.	1. • The power is not connected properly. • The battery is dead. • The LCD monitor is not open fully or the viewfinder is not pulled out when recording.	1. • Connect the AC Power Adapter/Charger securely (pg. 7). • Replace the dead battery with a fully charged one (pg. 6, 7). • Open the LCD monitor fully or pull out the viewfinder. The LCD monitor turns on/off when it is opened/closed at approx. 90° while the Power Switch is set to any position except "OFF" if the viewfinder is not fully pulled out.
2. "SET DATE/TIME!" appears.	2. • The built-in clock's rechargeable lithium battery is discharged. • The previously-set date/time is erased.	2. • Connect the camcorder to an AC outlet using the AC Power Adapter/Charger for over 24 hours to charge the clock's lithium battery (pg. 8).
3. Recording cannot be performed.	3. • The tape's erase protection switch is set to "SAVE". • The Power Switch is set to "PLAY". • "TAPE END" appears. • The cassette's cover is open.	3. • Set the tape's erase protection switch to "REC" (pg. 9). • Set the Power Switch to any position except "PLAY" or "OFF" (pg. 13). • Replace with new cassette (pg. 6). • Close the cassette's cover.
4. There is no picture.	4. • The camcorder is not getting power, or some other malfunction exists.	4. • Turn the camcorder's power off and on again (pg. 14).
5. Some functions are not available using MENU.	5. • The Power Switch is set to "A".	5. • Set the Power Switch to any position except "A" (pg. 13).
6. During shooting, some functions are not available using the Select Dial.	6. • The Power Switch is set to "A" or "5S".	6. • Set the Power Switch to "M" or "PS" (pg. 13).
7. The focus does not adjust automatically.	7. • Focus is set to "MANUAL". • The recording was done in a dark place, or the contrast was low. • The lens is dirty or covered with condensation.	7. • Set Focus to "AUTO" (pg. 37). • Clean the lens and check the focus again (pg. 71).
8. The cassette will not load properly.	8. • The cassette is in the wrong position. • The battery's charge is low.	8. • Set it in the right position (pg. 9). • Install a fully charged battery (pg. 6, 7).
9. In the 5-Second mode, recording ends before 5 seconds have elapsed.	9. • The 5-Second mode in the System Menu is set to "ANIM".	9. • Select "5S" or "5SD" in the System Menu (pg. 30).
10. Pro Snapshot mode cannot be used.	10. • The Squeeze mode is selected. • High Speed Recording is being attempted.	10. • Disengage the Squeeze mode (pg. 29). • Do not use High Speed Recording (pg. 42).
11. Although Pro Snapshot is attempted, flash does not take place.	11. • The subject is too bright with the flash set to "AUTO". • It  blinks, the flash is being charged.	11. • Set "FLASH" to "ON" in the Recording Menu (pg. 26). • It can take up to 10 seconds to charge the flash.

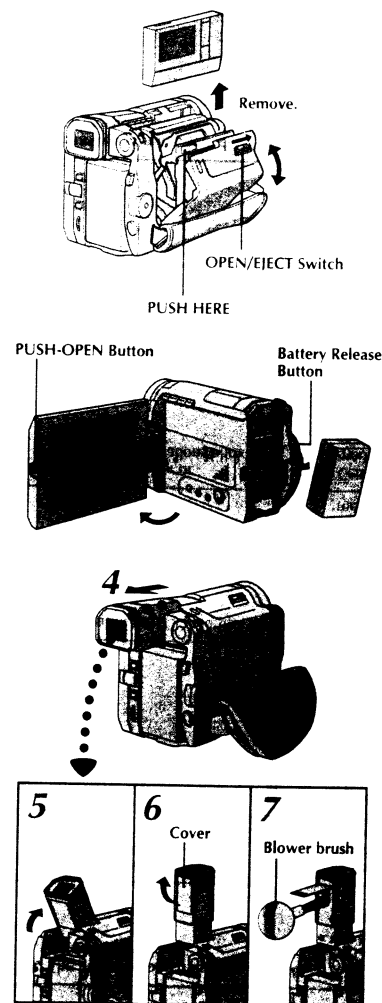
SYMPTOM	POSSIBLE CAUSES	CORRECTIVE ACTION
12. Although Pro Snapshot is taken with the flash, Red-Eye Reduction does not take place.	12. • The subject does not look straight toward the flash. • The subject does not look at the first flash (which is an important part of Red-Eye Reduction). • The camcorder is too far from the subject. • The flash is not in Red-Eye Reduction mode.	12. • The subject should look straight toward the flash, especially the first flash. If the subject does not see the first flash, it will be difficult for Red-Eye Reduction to take place (pg. 26). • The flash is effective for subjects at a distance of approx. 0.7 m to 2 m from the camcorder (pg. 26). • Press the Red-Eye Reduction Button  to display the Red-Eye Reduction indicator (pg. 26).
13. The image taken using Pro Snapshot is too dark.	13. • "FLASH" is set to "OFF" in the Recording Menu. • The flash emission window is covered by fingers, etc.. • The flash brightness is set to produce a darker image (adjustment value: -3). • The camcorder is too far from the subject.	13. • Set "FLASH" to "AUTO" or "ON" in the Recording Menu (pg. 26). • Do not cover the flash emission window. • Adjust the flash brightness to a larger value (pg. 27). • The flash is effective for subjects at a distance of approx. 0.7 m to 2 m (pg. 26).
14. The image taken using Pro Snapshot is too bright.	14. • "FLASH" is set to "ON" in the Recording Menu.	14. • Set "FLASH" to any parameter other than "ON" in the Recording Menu (pg. 26).
15. The colour of Pro Snapshot looks strange.	15. • The light source or the subject does not include white. Or there are various different light sources behind the subject.	15. • Set "FLASH" to "ON" in the Recording Menu. Or find a white subject and compose your shot so that it also appears in the frame (pg. 26).
16. Digital Zoom does not work.	16. • 10X optical zoom is selected. • The Video Echo mode is activated. • Picture Wipe or Dissolve are being used in a scene transition. • 5-Second recording was done with the Power Switch set to "5S" and with "5SD" selected in the System Menu. • Pro Snapshot was attempted during Digital Zoom. • High Speed Recording is attempted.	16. • Turn off the Video Echo mode (pg. 35). • Wait until the Picture Wipe or Dissolve effects are completed (pg. 28). • Change the setting of either the System Menu or the Power Switch (pg. 21). • Do not attempt to take a Pro Snapshot when performing Digital Zoom (pg. 29). • Release High Speed Recording (pg. 42).
17. Programme AE with special effects and Fade/Wipe Effects do not work.	17. • The Power Switch is set to "A" or "5S". • Some functions are disabled during High Speed Recording.	17. • Set the Power Switch to "M" or "PS" (pg. 13). • pg. 42.
18. The Black & White Eder does not work.	18. • The Sepia or Monotone mode is activated.	18. • Turn off Sepia and Monotone (pg. 34).
19. The Dissolve function does not work.	19. • The Sepia, Monotone or Slow Shutter mode of Programme AE with special effects is activated. • The Squeeze mode is selected. • The previously selected mode of Programme AE with special effects was changed after the last selected scene for editing was registered.	19. • Turn off Sepia, Monotone or Slow Shutter before adding Dissolve to a scene transition (pg. 34). • Make sure that the Squeeze mode in the Recording Menu is set to "OFF" (pg. 29). • Make sure you have selected the mode of Programme AE with special effects you want before starting editing (pg. 34).

CONTINUED ON NEXT PAGE

SYMPTOM	POSSIBLE CAUSES	CORRECTIVE ACTION
20. The Picture Wipe and Dissolve functions do not work.	20. • The last selected outgoing scene is ending. • At the start of the last selected scene for editing, the Power Switch is set to OFF. • The recorder is off.	20. • Select Picture Wipe or Dissolve before beginning recording. The effects are then automatically activated (27 pg. 32). • Do not turn off the camcorder's power after setting In and Edit-Out points, as they will all be erased (27 pg. 32). • The camcorder automatically shuts off after 5 minutes have elapsed in the Record-Standby mode. Make sure you continue operations within 5 minutes after engaging Record-Standby mode (27 pg. 32).
21. The Picture Wipe function does not work.	21. • The Slow Shutter mode is activated. • The Squeeze or Cinema mode is selected in the Recording Menu.	21. • Make sure the Squeeze mode, Cinema mode, or Slow Shutter mode is not activated when preparing to use the Picture Wipe function (27 pg. 29, 33).
22. Scene transition does not go as expected.	22. • When using "Picture Wipe/Dissolve" (27 pg. 32) or "Dissolve during 5-second mode recording" (27 pg. 31), there is a delay of a fraction of a second between the previous record stop-point and the Dissolve start-point. This is normal, but this slight delay becomes especially noticeable when shooting fast-moving subject or during rapid panning.	22. _____
23. The Video Echo mode does not work.	23. • The Picture Wipe or Dissolve functions are in use. • The Squeeze mode is selected in the Recording Menu. • A Fade-In or Fade-Out is in progress (White Fader, Black Fader or Black & White Fader). • Dissolve during 5-second mode recording is in use.	23. • Make sure the Squeeze mode is set to "OFF" (27 pg. 33). • Do not try to use the Video Echo mode during a Fade-In or Fade-Out or when Dissolve is activated during 5-second mode recording (27 pg. 31).
24. Even when Slow Shutter is not selected, the image looks like it is activated.	24. • When shooting in the dark, the unit becomes highly sensitive to light and the image takes on an effect similar to Slow Shutter.	24. • If you want the lighting to look more natural, set GAIN UP to "AGC" or "OFF" in the Recording Menu (27 pg. 29).
25. There is no strobe when the Classic Film or Strobe mode is activated.	25. • The Picture Wipe or Dissolve function is in use. • Dissolve during 5-second mode recording is in use.	25. • Do not try to use the Classic Film or Strobe mode during a scene transition (27 pg. 21, 31, 32).
26. White Balance cannot be activated.	26. • The Sepia or Monotone mode is activated.	26. • Turn off Sepia or Monotone before setting White Balance (27 pg. 34).
27. When shooting a subject illuminated by bright light, vertical lines appear.	27. • This is a result of exceedingly high contrast, and is not a malfunction.	27. _____
28. When the screen is under direct sunlight during shooting, the screen becomes red or black for an instant.	28. • This is not a malfunction.	28. _____

SYMPTOM	POSSIBLE CAUSES	CORRECTIVE ACTION
29. During recording, the date/time does not appear.	29. • "DISPLAY" is set to "OFF" in the Date/Time Menu. • Intertape shooting is performed.	29. • Set "DISPLAY" to "ON" in the Date/Time Menu (27 pg. 20). • During intertape shooting, the date/time does not appear (27 pg. 17). • Press IND. ON/OFF for longer than 1 second to make the indicators appear (27 pg. 15).
30. The indicators and messages do not appear.	30. • "ON SCREEN" is set to "OFF" in the Date/Time Menu. • You have made the indicators disappear.	30. • Set "ON SCREEN" to "ON" in the Date/Time Menu (27 pg. 20). • Press IND. ON/OFF for longer than 1 second to make the indicators appear (27 pg. 15).
31. Images on the LCD monitor appear dark or whitish.	31. • In places subject to low temperature, images become dark due to the characteristics of the LCD monitor. When this happens, the displayed colors differ from those that are actually recorded. This is not a defect of the camcorder. • When the LCD monitor's fluorescent light reaches the end of its service life, images on the LCD monitor become dark. Consult your nearest IVC dealer.	31. • Adjust the brightness and angle of the LCD monitor (27 pg. 17).
32. The rear of the LCD monitor is hot.	32. • The light used to illuminate the LCD monitor causes it to become hot.	32. • Close the LCD monitor to turn it off or set the Power Switch to "OFF" and let the unit cool down.
33. The indicators and the image colour on the LCD monitor are not clear.	33. • This may occur when the surface or the edge of the LCD monitor is pressed.	33. _____
34. The LCD monitor or viewfinder indications blink.	34. • Certain Fade/Wipe effects, certain modes of Programme AE with special effects, "DIS" and other functions that cannot be used together are selected at the same time.	34. • Re-read the sections covering Fade/Wipe effects, Programme AE with special effects and "DIS" (27 pg. 29, 31-35).
35. Colored bright spots appear all over the LCD monitor or the viewfinder.	35. • The LCD monitor or the viewfinder is made with high-precision technology. However, black spots or bright spots of light (red, green or blue) may appear constantly on the LCD monitor or the viewfinder. These spots are not recorded on the tape. This is not due to any defect of the unit. (Effective dots: more than 99.99 %)	35. _____
36. During recording, sound cannot be heard.	36. • The optional headphones are not connected to the headphones connector. • The sound volume of the headphones connector was not adjusted appropriately. The sound volume at this point is the same as the level it was adjusted to during playback.	36. • Connect the optional headphones to the headphones connector (27 pg. 74). • Adjust the sound volume during playback (27 pg. 49).

SYMPTOM	POSSIBLE CAUSES	CORRECTIVE ACTION
37. Play, Rewind and Fast-Forward functions do not work.	37. • The Power Switch is not set to PLAY .	37. • Set the Power Switch to PLAY (pg. 4).
38. The tape is moving, but there is no picture.	38. • Your TV has V input terminals, but is not set to its VIDEO mode. • The cassette's cover is open.	38. • Set the TV to the mode or channel appropriate for video playback (pg. 48, 49). • Close the cassette's cover (pg. 4).
39. The LCD monitor indications are distorted.	39. • During playback of the unrecorded portion, High-speed Search and still playback, LCD monitor indications appear distorted. This is not a defect.	39. _____
40. Images on the LCD monitor are blurry.	40. • The speaker volume is too great.	40. • Turn the speaker volume down (pg. 38).
41. The LCD monitor, the viewfinder and the lens have become dirty (ex. fingerprints).	41. _____	41. • Wipe them gently with soft cloth. Wiping strongly can cause damage.
42. An unusual mark appears.	42. _____	42. • Check the section of the manual that explains LCD monitor/viewfinder indications (pg. 74, 75).
43. An error indication E01 — E06 appears.	43. • A malfunction of some kind has occurred. In this case the camcorder's functions become unusable.	43. • Remove the power supply (battery pack, etc.) and wait a few minutes for the indication to clear. When it does, you can resume using the camcorder. If the indication remains even though you repeat the above two or three times, please consult your nearest JVC dealer.
44. The charger indicator on the AC Power Adapter/Charger does not light.	44. • The temperature of the battery is extremely high/low. • Charging is difficult in places subject to extremely high/low temperatures.	44. • To protect the battery, it is recommended to charge it in places with a temperature of 10°C to 35°C (pg. 77).
45. The recording mode indicator "LP" blinks.	45. • This occurs when recording in the LP mode is not available. After the indicator blinks, the recording mode switches to "SP" and recording goes on.	45. _____
46. Picture does not appear on the LCD monitor.	46. • The viewfinder is pulled out. • The LCD monitor's brightness setting is too dark.	46. • Push the viewfinder back in. • Adjust the brightness of the LCD monitor (pg. 17). • If the monitor is tilted upward 180 degrees, open the monitor fully (pg. 23).
47. When the image is printed from the printer, a black bar appears at the bottom of the screen.	47. • This is not a malfunction.	47. • By recording with "DIS" activated (pg. 29) this can be avoided.
48. The power lamp blinks.	48. • The camcorder was turned on when the battery power was almost gone.	48. • Replace with a charged battery pack (pg. 6, 7).



After Use

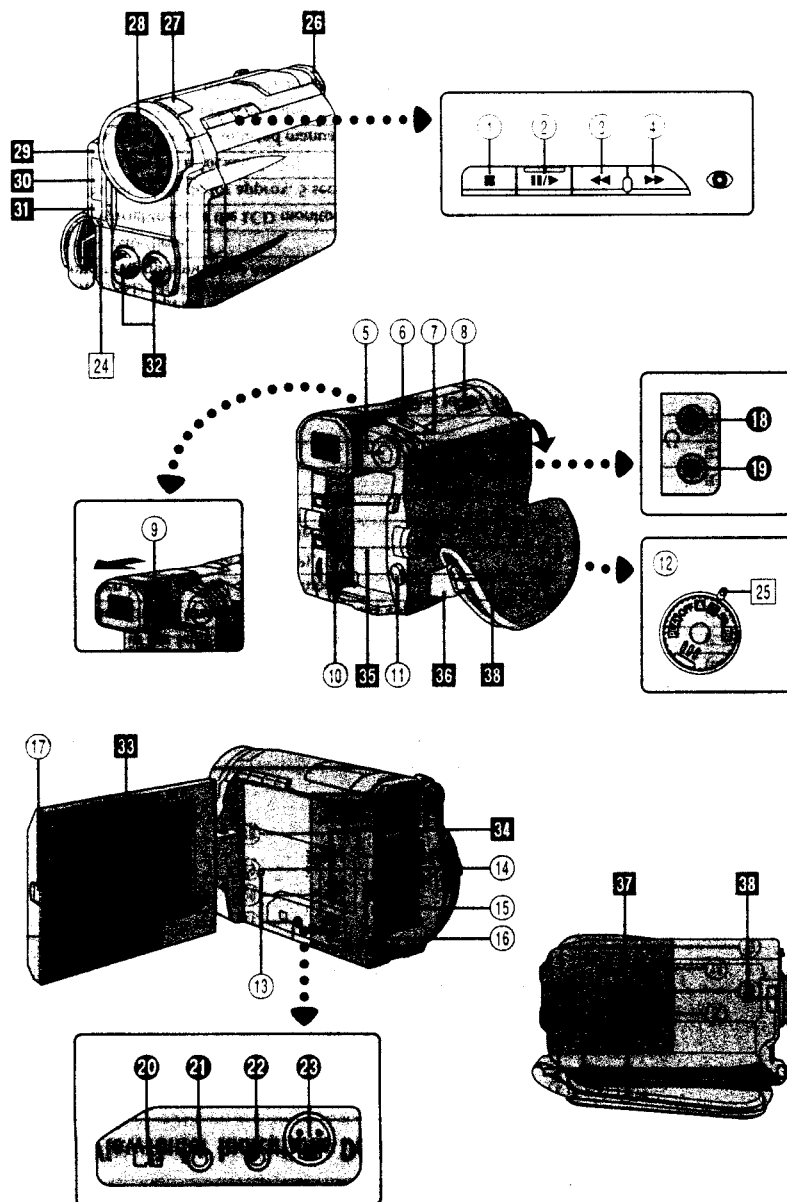
- 1 Turn off the camcorder.
- 2 Slide **OPEN/EJECT** in the direction of the arrow, then swing the cover open until it locks. The cassette holder opens automatically. Remove the cassette.
- 3 Press "PUSH HERE" to close the cassette cover.
- 4 Press the Battery Release Button and remove the battery pack.

Cleaning The Camcorder

- 1 **CLEAN EXTERIOR**
Wipe gently with a soft cloth.
• Put cloth in diluted mild soap and wring it well to wipe off heavy dirt. Then wipe again with a dry cloth.
- 2 **CLEAN LCD MONITOR**
Press **PUSH-OPEN** and open the LCD monitor. Wipe gently with the provided cleaning cloth or a commercially available soft cloth. Be careful not to damage the monitor. Close the LCD monitor.
- 3 **CLEAN LENS**
Blow it with a blower brush, then wipe gently with lens cleaning paper.
- 4 **PULL OUT VIEWFINDER FULLY**
- 5 **TILT VIEWFINDER VERTICALLY**
Tilt the viewfinder upward to 90 degrees.
- 6 **OPEN COVER**
Open the cover located on the bottom of the viewfinder.
- 7 **CLEAN VIEWFINDER**
Remove dust using a blower brush.
- 8 **PUSH VIEWFINDER BACK IN**
Close the cover until it locks in place. Tilt the viewfinder horizontally, and push it back in.

NOTES:

- Avoid using strong cleaning agents such as benzine or alcohol.
- Cleaning should be done only after the battery pack has been removed or other power units have been disconnected.
- Mold may form if the lens is left dirty.
- When using a cleaner or chemically treated cloth refer to the cautions of each product.



Controls

- 1 Stop Button [■, STOP] pg. 43
- 2 Play/Pause Button [▶▶, PLAY/PAUSE] pg. 43
- 3 Rewind Button [◀◀, REW] pg. 43
- 4 Fast-Forward Button [▶▶, FF] pg. 43
- Red-Eye Reduction Button [RE] pg. 26
- 5 Snapshot Dial [SNAPSHOT] pg. 24
- 6 Snapshot Button [SNAPSHOT] pg. 24
- 7 Power Zoom Lever [T/W] pg. 18
- Speaker/Headphone Volume Control [VOL.] pg. 43
- 8 OPEN/EJECT Switch pg. 9
- 9 Diopter Adjustment Control pg. 11
- 10 Battery Release Switch [BATTERY RELEASE] pg. 7
- 11 Recording Start/Stop Button pg. 14
- 12 Power Switch pg. 13, 43
- 13 Date/Time Reset Button [RESET] If pressed with the power supply removed, the previously set date/time is erased.
- 14 High Speed Recording Button [HIGH SPEED] pg. 42
- Progressive Slow-Motion Playback Button pg. 45
- 15 MENU/IND.ON/OFF Button pg. 15, 28
- 16 Select Dial [M, PUSH] pg. 8, 28
- LCD Monitor/Viewfinder Brightness Control pg. 17
- 17 Monitor Open Button [PUSH-OPEN] pg. 16

Connectors

The connectors 18 to 23 are located beneath the cover.

- 18 Audio/Video Output Connector [AV OUT] pg. 48
- Headphones Connector [H] pg. 64
- 19 External Stereo Microphone Input Connector [MIC] pg. 64
- 20 Digital Video Connector [DV IN/OUT: GR-DVL9600, DV OUT: GR-DVL9500] (i.Link*) pg. 51
- * i.Link refers to the IEEE1394-1995 industry specification and extensions thereof. The i.Link logo is used for products compliant with the i.Link standard.
- 21 J terminal [JLIP (Joint Level Interface Protocol)/DIGITAL STILL] pg. 50
- It is used to connect the camcorder to a device such as a personal computer.
- For further details consult your nearest JVC dealer.
- 22 Edit Connector [EDIT] pg. 58
- Connect the editing cable when performing Random Assemble Editing (pg. 58 - 63).
- 23 S-Video Output Connector [S OUT] pg. 48

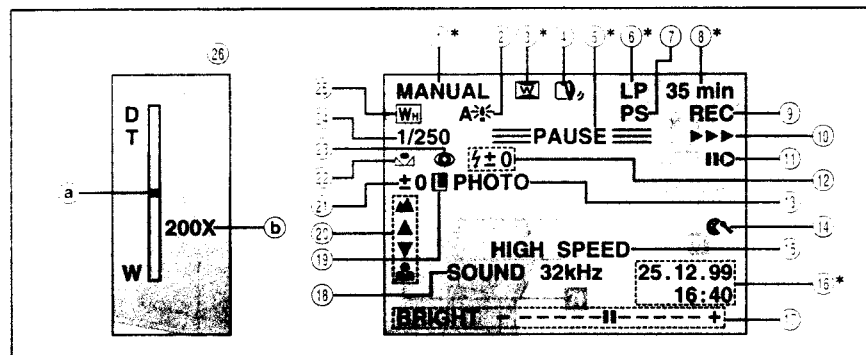
Indicators

- 24 Tally Lamp pg. 14
- 25 Power Lamp pg. 14

Other Parts

- 26 Viewfinder pg. 11
- 27 Camera sensor
- Be careful not to cover this area; a sensor necessary for shooting is built-in here.
- 28 Lens Cover
- Opens when the viewfinder is pulled out or the LCD monitor is opened fully.
- 29 Remote Sensor pg. 54
- 30 Flash pg. 26
- 31 Flash Sensor pg. 26
- 32 Stereo Microphone pg. 64
- 33 LCD Monitor pg. 17
- 34 Speaker pg. 43
- 35 Battery Pack Mount pg. 7
- 36 Grip Strap pg. 11
- 37 Tripod Mounting Socket pg. 12
- 38 Shoulder Strap Eyelets pg. 12

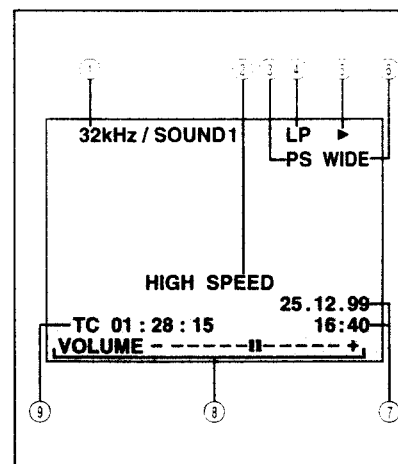
LCD Monitor/Viewfinder Indications During Recording



No.	Function	
1	Displays the operation mode position.	(pg. 13)
2	Appears when Auto Slow Shutter is engaged ("GAIN UP" is set to "AUTO").	(pg. 29)
3	Appears when in the Squeeze or Cinema mode.	(pg. 29)
4	Appears when Digital Image Stabiliser ("DIS") is engaged.	(pg. 29)
5	Appears when in the Record-Standby mode.	(pg. 14)
6	Displays the recording mode (SP or LP).	(pg. 10)
7	Appears when Progressive mode is selected.	(pg. 22)
8	Displays the tape remaining time.	(pg. 15)
9	Appears during recording.	(pg. 14)
10	Appears while the tape is running.	(pg. 14)
11	Appears during Insert Editing.	(pg. 65)
12	Appears when the flash is ready. A number appears next to the indication while adjusting the brightness of the flash.	(pg. 26, 27)
13	Appears when taking a Pro Snapshot.	(pg. 24)
14	Appears when the wind cut mode is engaged to cut down on noise created by wind.	(pg. 30)
15	- HIGH SPEED: Appears when High Speed Recording mode is selected. - SS MODE/SSD MODE/ANIM.: Displays the 5 second recording mode, Dissolve during 5 second recording mode or Animation recording mode.	(pg. 42) (pg. 21)
16	Displays the date/time.	(pg. 20)
17	Displays the brightness of the LCD monitor or the viewfinder.	(pg. 17)
18	Displays the sound mode for approx. 5 seconds after turning on the camcorder.	(pg. 30)
19	Appears when the iris is locked.	(pg. 39)
20	Appears when the focus is adjusted manually.	(pg. 37)
21	Appears when the exposure is adjusted.	(pg. 38)
22	Appears when the white balance is adjusted.	(pg. 41)
23	Appears when Red-Eye reduction is ready.	(pg. 26)
24	Displays the selected Programme AE with special effects.	(pg. 34)
25	Displays the selected Fade/Wipe effect.	(pg. 31)
26	Appears during zooming.	(pg. 18)
27	① Zoom level indicator ② Approximate zoom ratio	

* Pressing IND. ON/OFF for longer than 1 second lets you remove indications marked with * from the screen.

LCD Monitor/Viewfinder Indications During Playback



No.	Function	
1	Displays the sound mode.	(pg. 41)
2	Appears when playing back images recorded in High Speed Recording mode.	(pg. 45)
3	Displays playback of images recorded in Progressive mode.	(pg. 22)
4	Displays the recording mode.	
5	Appears while a tape is running. ▶ : Playback ▶▶ : Fast-Forward/Shuttle search ◀◀ : Rewind/Shuttle search : Pause ▶ : Forward slow-motion ◀ : Reverse slow-motion ⦿ : Audio Dubbing	
6	During playback of image recorded in High Speed Recording mode, the screen mode (Zoom or Wide) is displayed.	(pg. 45)
7	Displays the date/time.	(pg. 41)
8	BRIGHT: Displays the brightness of the LCD monitor or the viewfinder.	(pg. 17)
9	VOLUME: Displays the speaker or headphone volume.	(pg. 43)
10	Displays the time code.	(pg. 41)

Warning Indications

Indications	Function
	Displays the battery remaining power. Remaining power level: high → → → Remaining power level: exhausted As the battery power comes close to nil, the battery indicator blinks. When the battery power is exhausted, power turns off automatically.
	Appears when no tape is loaded, or when the erase protection tab is set to "SAVE". (pg. 9)
	Appears if dirt is detected on the heads during recording. (pg. 79)
	Appears if condensation occurs. When this indication is displayed, the camcorder turns off automatically.
TAPE!	Appears for 10 seconds after power is turned on if there is no tape loaded.
TAPE END	Appears when the tape ends during recording or playback. (pg. 15)
SET DATE/TIME!	- Appears when the date/time is not set. (pg. 8) - Appears when the clock (lithium) battery is discharged and the previously set date/time is erased. (pg. 8)
ERROR! REFER MANUAL	Appears when Audio Dubbing or Insert Editing is unavailable. (pg. 68, 69)
E01 — E06	The error indications (E01 — E06) show what type of malfunction has occurred. When an error indication appears, the camcorder turns off automatically. Remove the power supply (battery, etc.) and wait a few minutes for the indication to clear. When it does, you can resume using the camcorder. If the indication remains, consult your nearest JVC dealer. (pg. 70)

A

AC Power Adapter/Charger	pg. 6, 7
Animation	pg. 29
Audio Dubbing	pg. 64
Auto Focus	pg. 36
Auto Shut-off	pg. 35, 43

B

Battery Low	pg. 75
Battery Pack	pg. 6, 7, 77
BEEP Tally	pg. 30
Brighten The LCD Monitor	pg. 17
Built-in Clock's Lithium Battery	pg. 8

C

Change The Battery Pack	pg. 6
Cinema	pg. 29
Classic Film	pg. 35
Clean The Camcorder	pg. 71
Connections	pg. 7, 48 - 51, 58

D

Darken The LCD Monitor	pg. 17
Date/Time Display	pg. 20, 47
Date/Time Settings	pg. 8
Demonstration Mode	pg. 30
Digital Dubbing	pg. 53
Digital Zoom	pg. 29
DIS (Digital Image Stabiliser)	pg. 29
Discharge The Battery Pack	pg. 6
Diopter Adjustment	pg. 11
Dissolve During 5-second Recording Mode	pg. 21
Dubbing	pg. 52

E

Erase Protection	pg. 9
Exposure Control	pg. 38

F

Fade-In/Out	pg. 31
Fast-Forward The Tape	pg. 43
5-second recording mode	pg. 21
Flash	pg. 26, 27

G

Gain Up	pg. 29
Grip Adjustment	pg. 11

H

High Speed Recording	pg. 42
----------------------------	--------

I

Interface Shooting	pg. 17
Iris	pg. 39
Iris Lock	pg. 39

J

Journalistic Shooting	pg. 17
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L

LCD monitor/Viewfinder Indications	pg. 74, 75
Load A Tape	pg. 9

M

Manual Focus	pg. 37
Monotone	pg. 35
Motor Drive Mode	pg. 25

P

Picture Wipe/Dissolve	pg. 32
Playback Menu	pg. 46
Playback Special Effects	pg. 57
Playback Zoom	pg. 56
Power Switch Position	pg. 13
Programme AE With Special Effects	pg. 34
Progressive Mode	pg. 22
Progressive Slow-Motion Playback	pg. 56
Pro Snapshot Mode	pg. 24
Provided Accessories	pg. 3

R

Random Assemble Editing	pg. 58 - 63
Record-Standby	pg. 14
Recording Format	pg. 4
Recording Mode	pg. 10
Recording Menu	pg. 29, 30
Red-Eye Reduction	pg. 26
Remote Control	pg. 54
Rewind The Tape	pg. 43

S

Self-Recording	pg. 17
Sepia	pg. 35
Set Remote Control/VCR Code	pg. 38
Shoulder Strap Attachment	pg. 12
Shuttle Search	pg. 44
Shutter Speed	pg. 35
Slow-Motion Playback	pg. 56
Slow Shutter	pg. 35
Sound Mode	pg. 30
Specifications	pg. 79
Squeeze	pg. 29
Still Playback	pg. 44
Strobe	pg. 35
System Menu	pg. 30

T

Tele Macro	pg. 30
Time Code	pg. 4, 19
Tripod Mounting	pg. 12
Twilight	pg. 35

U

Unload A Tape	pg. 9
---------------------	-------

V

Video Echo	pg. 35
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W

White Balance	pg. 40, 41
Wide Mode	pg. 29
Wind Cut	pg. 30
Wipe In/Out	pg. 31

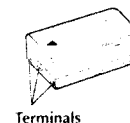
Z

Zooming	pg. 18
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CAUTIONS

Battery Packs

The supplied battery pack is a lithium-ion battery. Before using the supplied battery pack or an optional battery pack, be sure to read the following cautions:



Terminals

1. To avoid hazard . . .

- do not burn.
- do not short-circuit the terminals.
- do not modify or disassemble.
- do not expose the battery to temperatures exceeding 60°C (140°F), as this may cause the battery to overheat, explode or catch fire.
- use only specified chargers.

2. To prevent damage and prolong service life . . .

- do not subject to unnecessary shock.
- charge in an environment where temperatures are within the tolerances shown in the chart below. This is a chemical reaction type battery—cooler temperatures impede chemical reaction, while warmer temperatures can prevent complete charging.
- store in a cool, dry place. Extended exposure to high temperatures will increase natural discharge and shorten service life.
- fully charge and then fully discharge the battery every 6 months when storing the battery pack over a long period time.
- remove from charger or powered unit when not in use, as some machines use current even when switched off.

NOTES:

- It is normal for the battery pack to be warm after charging, or after use.
- Temperature Range Specifications**

Charging	10°C to 35°C (50°F to 95°F)
Operation	0°C to 40°C (32°F to 104°F)
Storage	-10°C to 30°C (-14°F to 86°F)
- Recharging time is based on room temperature of 20°C (68°F).
- The lower the temperature, the longer recharging takes.

Cassettes

To properly use and store your cassettes, be sure to read the following cautions:

1. During use . . .

- make sure the cassette bears the Mini DV mark.
- be aware that recording onto prerecorded tapes automatically erases the previously recorded video and audio signals.
- make sure the cassette is positioned properly when inserting.
- do not load and unload the cassette repeatedly without allowing the tape to run at all. This slackens the tape and can result in damage.
- do not open the front tape cover. This exposes the tape to fingerprints and dust.

2. Store cassettes . . .

- away from heaters or other heat sources.
- out of direct sunlight.
- where they won't be subject to unnecessary shock or vibration.
- where they won't be exposed to strong magnetic fields (such as those generated by motors, transformers or magnets).
- vertically, in their original cases.

LCD Monitor

1. To prevent damage to the LCD monitor, DO NOT . . .

- push it strongly or apply any shocks.
- place the camcorder with the LCD monitor on the bottom.

2. To prolong service life . . .

- avoid rubbing it with coarse cloth.

3. Be aware of the following phenomena for LCD monitor use.

These are not malfunctions. . . .

- While using the camcorder, the surface around the LCD monitor and/or the back of the LCD monitor may heat up.
- If you leave power on for a long time, the surface around the LCD monitor becomes hot.

Main Unit

1. For safety, DO NOT . . .

- open the camcorder's chassis.
- disassemble or modify the unit.
- short-circuit the terminals of the battery pack. Keep it away from metallic objects when not in use.
- allow inflammables, water or metallic objects to enter the unit.
- remove the battery pack or disconnect the power supply while the power is on.
- leave the battery pack attached when the camcorder is not in use.

2. Avoid using the unit . . .

- in places subject to excessive humidity or dust.
- in places subject to soot or steam such as near a cooking stove.
- in places subject to excessive shock or vibration.
- near a television set.
- near appliances generating strong magnetic or electric fields (speakers, broadcasting antennas, etc.).
- in places subject to extremely high (over 40°C or 104°F) or extremely low (under 0°C or 32°F) temperatures.

3. DO NOT leave the unit . . .

- ... in places of over 50°C (122°F).
- ... in places where humidity is extremely low (below 35%) or extremely high (above 80%).
- ... in direct sunlight.
- ... in a closed car in summer.
- ... near a heater.

4. To protect the unit, DO NOT . . .

- ... allow it to become wet.
- ... drop the unit or strike it against hard objects.
- ... subject it to shock or excessive vibration during transportation.
- ... keep the lens directed at extremely bright objects for long periods.
- ... expose the lens to direct sunlight.
- ... carry it by holding the LCD monitor or the viewfinder.
- ... swing it excessively when using the hand strap or the grip.
- ... swing the soft camera case excessively when the camcorder is inside it.

5. Dirty heads can cause the following problems:

- No picture during playback.
- Blocks of noise appear during playback.
- During recording, the Head Clog Warning indicator "X" appears.

In such cases, use the optional Cleaning Cassette. Insert it and play back. If the cassette is used more than once consecutively, damage to the video heads may result. After the camcorder plays back for about 20 seconds, it stops automatically. Also refer to the Cleaning Cassette's instructions. If, after using the Cleaning Cassette, the problems still exist, consult your nearest JVC dealer. Mechanical moving parts used to move the video heads and video tape tend to become dirty and worn out over time. In order to maintain a clear picture at all times, periodic check-ups are recommended after using the unit for about 1,000 hours. For periodic check-ups please consult your nearest JVC dealer.

How To Handle A CD-ROM

- Take care not to soil or scratch the mirror surface (opposite to the printed surface). Do not write anything or put a sticker on either the front or back surface. If the CD-ROM gets dirty, gently wipe it with a soft cloth outward from the centre hole using a circular motion.
- Do not use conventional disc cleaners or cleaning spray.
- Do not bend the CD-ROM or touch its mirror surface.
- Do not store your CD-ROM in a dusty, hot or humid environment. Keep it away from direct sunlight.

About moisture condensation . . .

- You have observed that pouring a cold liquid into a glass will cause drops of water to form on the glass' outer surface. This same phenomenon occurs on the head drum of a camcorder when it is moved from a cool place to a warm place, after heating a cold room, under extremely humid conditions or in a place directly subjected to the cool air from an air conditioner.
- Moisture on the head drum can cause severe damage to the video tape, and can lead to internal damage to the camcorder itself.

Serious malfunctioning

If malfunctioning occurs, stop using the unit immediately and consult your local JVC dealer.

The camcorder is a microcomputer-controlled device. External noise and interference (from a TV, a radio, etc.) might prevent it from functioning properly. In such cases, first disconnect its power supply unit (battery pack, AC Power Adapter/Battery Charger, etc.) and wait a few minutes and then re-connect it and proceed as usual from the beginning.

SPECIFICATIONS**Camcorder****General**

Power supply : DC 6.3 V $\equiv$ (Using the AC Power Adapter Charger)
DC 7.2 V $\equiv$ (Using battery pack)

Power consumption

LCD monitor off, viewfinder on : Approx. 5.3 W

LCD monitor on, viewfinder off : Approx. 6.5 W

LCD monitor on, viewfinder on : Approx. 7.1 W

Format : DV Format (SD mode)

Signal format : PAL Standard

Video signal recording format : Digital Component Recording

Cassette : Mini DV Cassette

Tape Speed : SP: 18.8 mm/s
LP: 12.5 mm/s

Maximum recording time : SP: 60 min.
LP: 90 min. (using M-DV60ME cassette)

Pickup : 1/3" CCD

Lens : F1.8, $f = 5$ to 50 mm, 10:1 Power Zoom Lens

Filter diameter : $\phi 37$ mm

LCD monitor : 3.8" diagonally measured, LCD panel/TFT active matrix system

Viewfinder : Electronic viewfinder with 0.55" colour LCD

Speaker : Monaural

Operating temperature : 0°C to 40°C

Operating humidity : 35% to 80%

Storage temperature : -20°C to 50°C

Dimensions : 72 (W) x 94 (H) x 128 (D) mm
(with the LCD monitor closed, and with the viewfinder fully tilted downward and pushed back in)

Weight : Approx. 670 g

Connectors

S-Video output : Y: 1 Vp-p, 75 Ω , analogue output
C: 0.29 Vp-p, 75 Ω , analogue output

Video output : 1 Vp-p, 75 Ω unbalanced, analogue output (via AV OUT connector)

ILIP/Digital still output : $\phi 3.5$ mm, 4-pole, mini-head jack (compatible with RC-5325 plug)

Audio output : -8 dBs, 1 k Ω analogue output (via AV OUT connector)

Headphone output : $\phi 3.5$ mm, stereo (via AV OUT connector)

External microphone input : -68 dBs, high impedance unbalanced with $\phi 3.5$ mm (stereo)

DV connector : 4-pin, IEEE1394 conformity
(IGR-DVL9600: input/output, GR-DVL9500: output only)

AC Power Adapter/Charger AA-V68EK

Power requirement : AC 110 V to 240 V $\sim$, 50/60 Hz

Power consumption : 20 W

Output

Charge : DC 7.2 V $\equiv$, 0.77 A

VTR : DC 6.3 V $\equiv$, 1.8 A

Dimensions : 94 (W) x 35 (H) x 122 (D) mm

Weight : Approx. 300 g

Specifications shown are for SP mode unless otherwise indicated. E & O.E. Design and specifications subject to change without notice.

SECTION 1 DISASSEMBLY

1.1 BEFORE ASSEMBLY AND DISASSEMBLY

1.1.1 Precautions

1. Be sure to remove the power supply unit prior to mounting and soldering of parts.
2. When connecting and disconnecting the connectors, be careful not to damage the wire.
3. When replacing chip parts (especially IC parts), desolder completely first (to prevent peeling of the pattern).
4. Tighten screws properly during the procedures.
Unless specified otherwise, tighten screws at a torque of 0.075N·m (0.75 kgf·cm).

1.1.2 Assembly and disassembly

STEP /LOC NO.	PART	Fig. No.	REMOVAL	
			*[UNLOCK/RELEASE/ UNPLUG/UNCLAMP/ UNSOLDER]	Note
(1)	FRONT COVER ASSEMBLY	1-3-1	(S1), 3(S2), 2(S3), (S4), 2(L1) (L2), (L3) *CONNECTOR (A), (B), (C) WINDOW (W/B), JACK COVER	Note 1,2
(2)	UPPER CASE ASSEMBLY	1-3-2	2(S1), 5(S2), 2(S4), 2(S5) 2(S6), (S7), (S8), (L3) *CONNECTOR (D), (E)	Note 3
(3)	MONITOR ASSEMBLY	1-3-3	2(S9), (L3) *CONNECTOR (F)	Note 4

↑ (1)
↑ (2)
↑ (3)
↑ (4)
↑ (5)

(1) : Indicate the disassembly steps. When assembling, perform in the reverse order of these steps. This number corresponds to the number in the disassembly diagram.

(2) : Indicates the name of disassembly/assembly parts.

(3) : Indicates the number in the disassembly diagram.

(4) : Indicates parts and points such as screws, washers, springs which must be removed during disassembly/assembly.

P = Spring

W = Washer

S = Screw

*Lock (L), soldering (SD), shield, connector, etc.

[Example] • Remove (W1) = Washer W1.

• Remove (SD1) = Soldering at the point SD1.

• Connector (A) = Disconnect the connector (A).

(5) : Precautions on disassembly/assembly.

1.1.3 Disconnection of Connectors (Wires)

Connector

Pull both ends of the connector in the arrow direction, remove the lock and disconnect the flat wire.

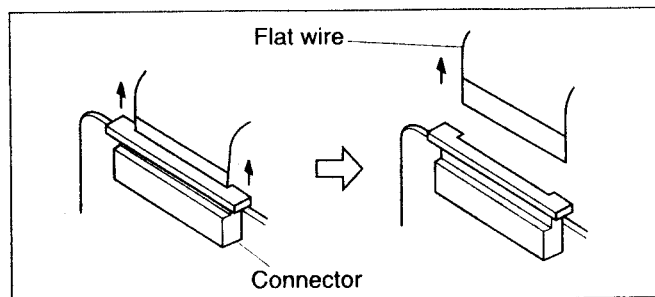


Fig. 1-1-1 Connector 1

Extend the locks in the direction of the arrow for unlocking and then pull out the wire. After removing the wire, immediately restore the locks to their original positions because the locks are apt to come off the connector.

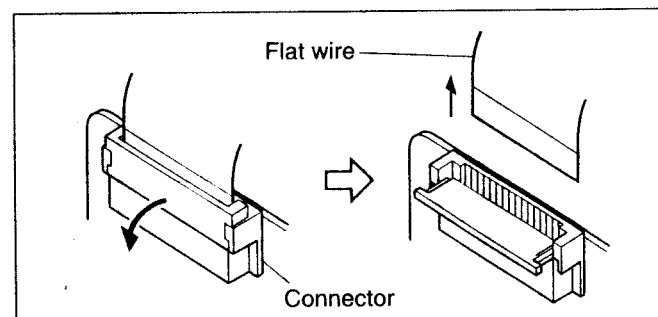


Fig. 1-1-2 Connector 2

B-B Connector

Pull the board by both the sides in the direction of the arrow for disconnecting the B-B connector.

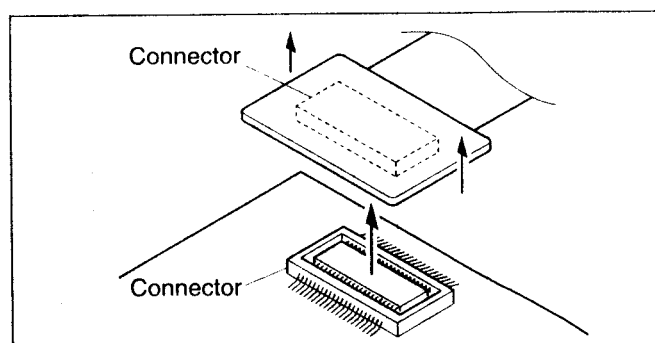


Fig. 1-1-3 Connector 3

1.1.4 Screws used in assembly of cabinet parts and boards

The following Table 1-1-1 shows the symbols, shapes, and parts numbers of the screws used in the disassembly and assembly diagrams of cabinet parts and board assemblies. Prior to assembly, check the following table and be sure to use the correct screw.

Note: Screw that are asterisked (marked with *) in the shape column are fixed with screw lock agent. If such the screw is once removed, never use it again.

Symbol	Shape	Part No.	Color
(S1)	 *	LY30018-067B	Black
(S2)		LY30018-060A	Silver
(S3)		LY30018-063A	Black
(S4)		LY30018-047A	Silver
(S5)		QYSPSPU1640R	Silver
(S6)	 *	LY30018-075A	Black
(S7)		LY30018-044A	Black
(S8)		LY30018-005A	Black
(S9)	 *	LY30018-068A	Gold
(S10)		LY30018-017A	Silver
(S11)	 *	LY30018-046A	Gold
(S12)		LY30018-057A	Silver
(S13)	 *	LY30018-064A	Black
(S14)		LY30018-023A	Black
(S15)		LY30018-037A	Black
(S16)		LY30018-021A	Black
(S17)		LY30018-022A	Black
(S18)		LY30018-014A	Gold
(S19)		LY30019-003A	Gold
(S20)	 *	LY30018-028A	Silver
(S21)		QYSPSPT1740R	Silver
(S22)		QYSPSPT1735D	Black
(S23)	 *	LY30018-032A	Silver
(S24)		LY30018-049A	Gold
(S25)	 *	LY30018-038A	Black
(S26)		QYSPSGU1750Z	Gold
(S27)		LY30727-002A	Gold
(S28)		LY30727-001A	Black
(S29)	 *	LY30018-066A	Black

Table 1-1-1

1.2 TOOLS REQUIRED FOR ADJUSTMENTS

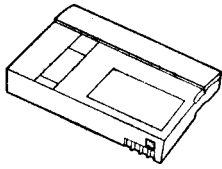
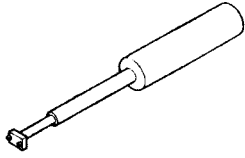
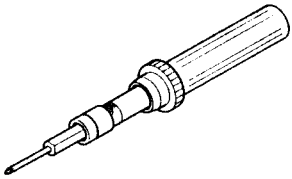
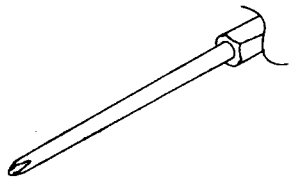
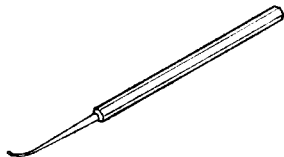
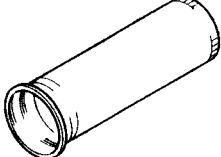
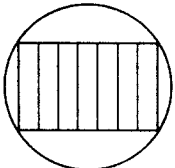
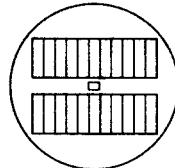
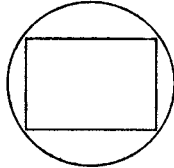
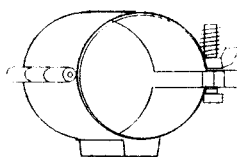
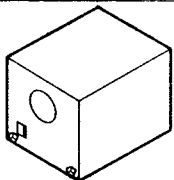
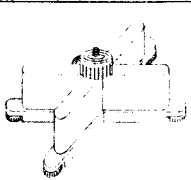
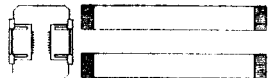
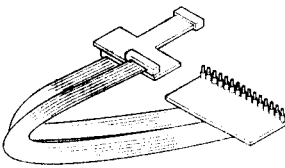
1 ALIGNMENT TAPE MC-2 	2 GUIDE DRIVER YTU94085 
3 TORQUE DRIVER YTU94088 	4 BIT YTU94088-003 
5 CHIP IC REPLACEMENT JIG PTS40844-2 	6 INF ADJUSTMENT LENS YTU92001B 
7 COLOR BAR CHART YTU92001-051 	8 GRAY SCALE CHART YTU92001-052 
9 WHITE BALANCE CHART YTU92001-053 	10 IINF LENS HOLDER YTU94087 
11 LIGHT BOX YTU93072A-1 	12 CAMERA STAND YTU93079 
13 PATCH CORD YTU93095A 	14 JIG CONNECTOR CABLE YTU93082D 

Table 1-2-1

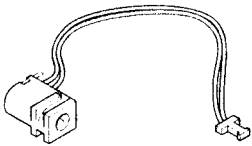
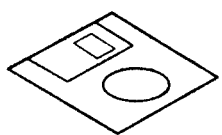
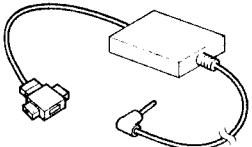
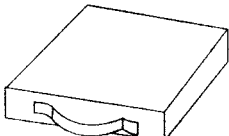
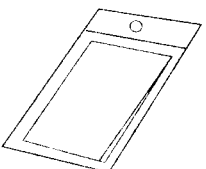
15	POWER SUPPLY JIG YTU94143A	16	SERVICE SUPPORT SYSTEM SOFTWARE YTU94057-35
			
17	PC CABLE QAM0099-002	18	SOLDERING KIT YTU96016C
			
19	CLEANING CLOTH KSMM-01		
			

Table 1-2-2

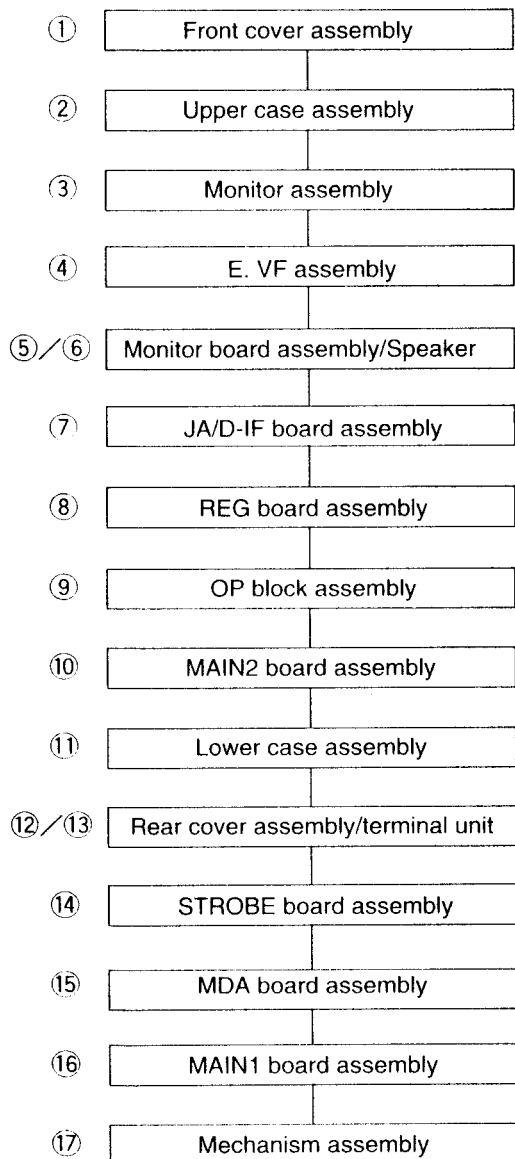
1. Alignment tape
To be used for check and adjustment of interchangeability of the mechanism.
(Video: Color bar signal. Audio: Non-signal)
2. Guide driver
To be used to turn the guide roller for adjustment of the linearity of playback envelope
3. Torque driver
Be sure to use to fastening the mechanism and exterior parts because those parts must strictly be controlled for tightening torque.
4. Bit
This bit is slightly longer than those set in conventional torque drivers.
5. Chip IC replacement jig
To be used for replacing chip IC's and other chip parts.
6. INF adjustment lens
To be used for adjustment of the camera system.
7. Color bar chart
To be used for adjustment of the camera system.
8. Gray scale chart
To be used for adjustment of the camera system.
9. White balance chart
To be used for adjustment of the camera system. (for white balance adjustment)
10. INF lens holder
To be used together with the camera stand (12) for operating the VideoMovie in the stripped-down condition such as the status without the exterior parts or for using commodities that are not yet conformable to the interchangeable ring.

11. Light box
To be used for adjustment of the camera system.
12. Camera stand
To be used together with the INF adjustment lens holder (10).
13. Patch cord
To be used to connect electrical parts, P.C. boards, etc. for servicing.
14. JIG connector cable
Connect this cable to CN108 of the MAIN1 board for measuring error rates, etc. with the error rate measuring instrument.
15. Power supply jig
A jig cable to be used to supply power to the main unit during adjustment.
16. Service support system software
To be used for adjustment with a personal computer.
17. PC cable
To be used to connect the VideoMovie and a personal computer with each other when a personal computer is used for adjustment.
18. Soldering kit
Thin head is made so that it can be inserted into small spaces.
19. Cleaning cloth
Recommended cleaning cloth to wipe down the video heads, mechanism (tape transport system), optical lens surface and screen of the LCD monitor.

1.3 DISASSEMBLY/ASSEMBLY OF CABINET PARTS

1.3.1 Disassembly flow chart

The following flowchart shows the procedure to disassemble the exterior parts. When reassembling the exterior parts, follow this flowchart in the reverse order.



1.3.2 Disassembly method

Note: Numbers in circles indicate the order to dismantle the exterior parts.

Numbers of screws indicate the order to remove them, while symbols in parentheses show the types of the screw.

STEP /LOC NO.	PART	Fig. No.	REMOVAL	
			*UNLOCK/RELEASE/ UNPLUG/UNCLAMP/ UNSOLDER	Note
①	FRONT COVER ASSEMBLY	1-3-1	(S1), 3(S2), 2(S3), (S4), 2(L1) (L2), (L3) *CONNECTOR (A), (B), (C) WINDOW (W/B), JACK COVER	Note 1,2
②	UPPER CASE ASSEMBLY	1-3-2	2(S1), 5(S2), 2(S4), 2(S5) 2(S6), (S7), (S8), (L3) *CONNECTOR (D), (E)	Note 3
③	MONITOR ASSEMBLY	1-3-3	2(S9), (L3) * CONNECTOR (F)	Note 4
④	E.VF ASSEMBLY	1-3-4	2(S10), *CONNECTOR (G) Heat sink (2)	Note 5
⑤/⑥	MONITOR BOARD ASSEMBLY/ SPEAKER	1-3-5	3(S7) *CONNECTOR (H) (S11), BRACKET (SPEAKER)	- Note 6
⑦	JA/D-IF BOARD ASSEMBLY	1-3-6	(S12), (L4) *CONNECTOR (J)	-
⑧	REG BOARD ASSEMBLY	1-3-7	(L5), (L6) *CONNECTOR (K), (L)	Note 7
⑨	OP BLOCK ASSEMBLY	1-3-8	2(S13) *CONNECTOR (M), (N)	Note 8,9
⑩	MAIN2 BOARD ASSEMBLY	1-3-9	(L7), (L8), (L9) *CONNECTOR (O), (P), (Q) HOLDER (CN201)	Note 10
⑪	LOWER CASE ASSEMBLY	1-3-10	3(S1), 2(S2), 3(S13) *CONNECTOR (R) BRACKET BOTTOM, BASE	-
⑫/⑬	REAR COVER ASSEMBLY/BATTERY TERMINAL UNIT	1-3-11	(S13), (S14), 2(S15) (S15), (L10)	Note 11 Note 12
⑭	STROBE BOARD ASSEMBLY	1-3-12	3(S16), (L11) JACK COVER	Note 13
⑮	MDA BOARD ASSEMBLY	1-3-13A 1-3-13B	(S17), (S18) *CONNECTOR (S), (T), (U), (V) *CONNECTOR (W)	- Note 14,15
⑯	MAIN1 BOARD ASSEMBLY	1-3-14	(S18), (L12), (L13), (L14), (L15) *CONNECTOR (X), (Y) SHIELD COVER	-
⑰	MECHANISM ASSEMBLY	1-3-15	2(S19), 2(L16) BRACKET (1)	Note 16

① Front cover assembly

Remove the window (W/B) first and one screw (1) next. Open the monitor assembly and then remove two screws (2, 3) from the upper and lower parts in the rear of the cabinet. Open the jack cover. Remove two screws (4, 5) first and two screws (6, 7) next. While shifting the front cover assembly slightly frontwards, disconnect three connectors (A), (B), (C) and then remove the front cover assembly completely.

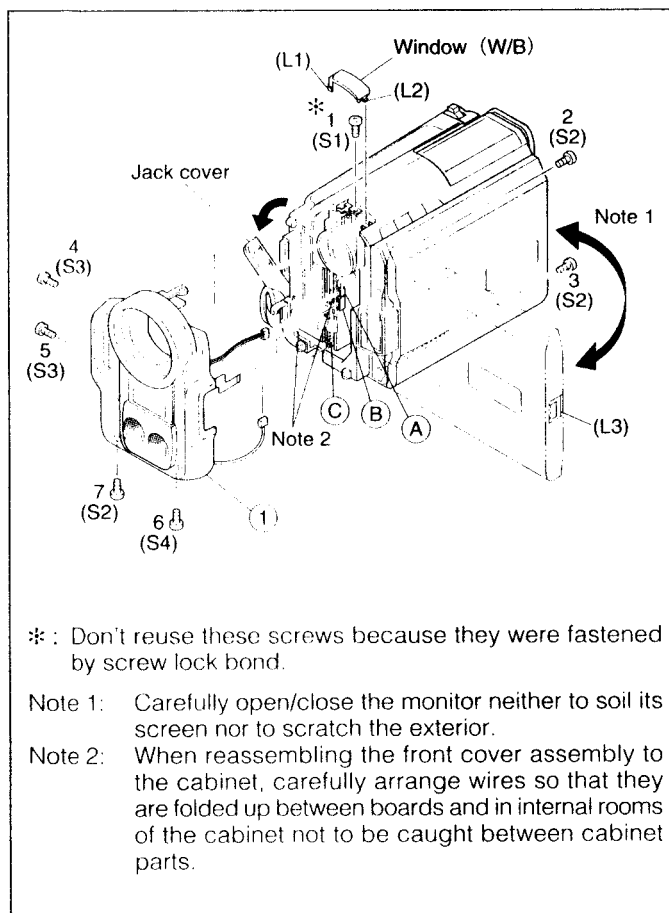


Fig. 1-3-1

② Upper case assembly

Open the monitor assembly and remove three screws (8 to 10) while leaning the monitor assembly. After removing the screws, close the monitor assembly. Remove eight screws (11 to 18). Upright the electronic viewfinder by pulling it up and then remove two screws (19, 20). Open the cassette cover and remove two screws (21, 22). After removing the two screws, close the cassette cover. Remove the upper case assembly by the rear side first and disconnect two connectors (D, E) with care not to damage the spacer (heat sink), if there is. Then, remove the upper case assembly completely.

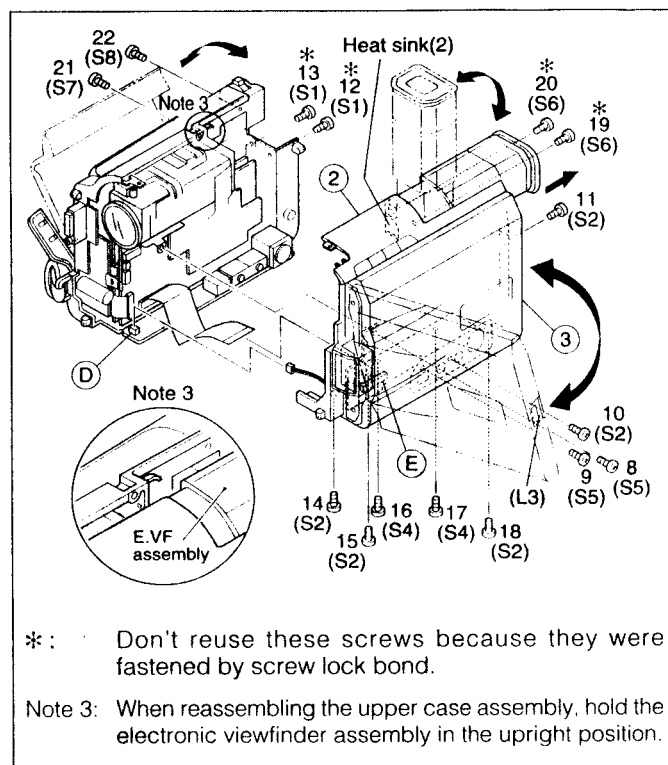


Fig. 1-3-2

③ Monitor assembly

Disconnect one connector (F) by pulling it out and remove two screws (23, 24). While unhooking (L3), remove the monitor assembly.

Note 4: For disassembling of the monitor assembly in detail, refer to "1.4 Disassembling/Reassembling Monitor assembly".

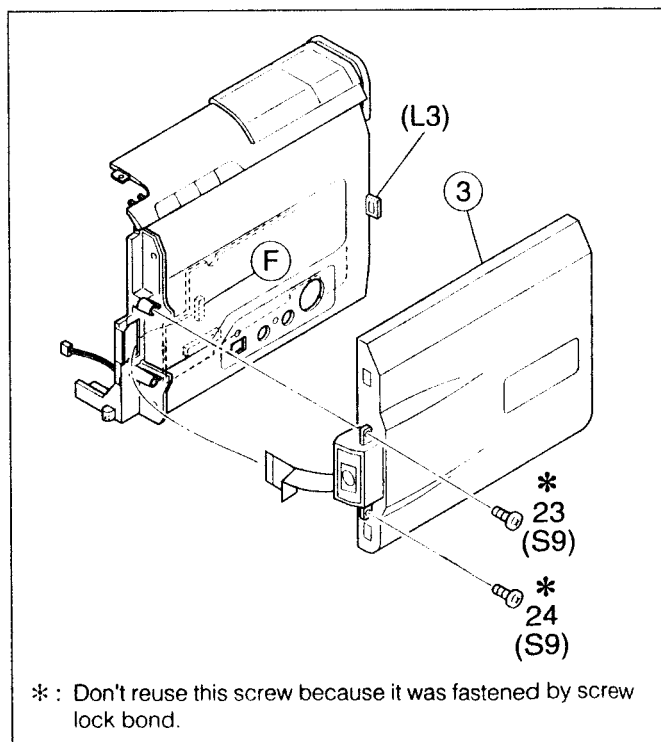


Fig. 1-3-3

④ Electronic viewfinder assembly

Disconnect one connector (G) by pulling it out and remove two screws (25, 26). After peeling off the heat sink (2), remove the electronic viewfinder assembly.

Note 5: For disassembling of the electronic viewfinder assembly in detail, refer to "1.5 disassembling/ reassembling electronic viewfinder assembly".

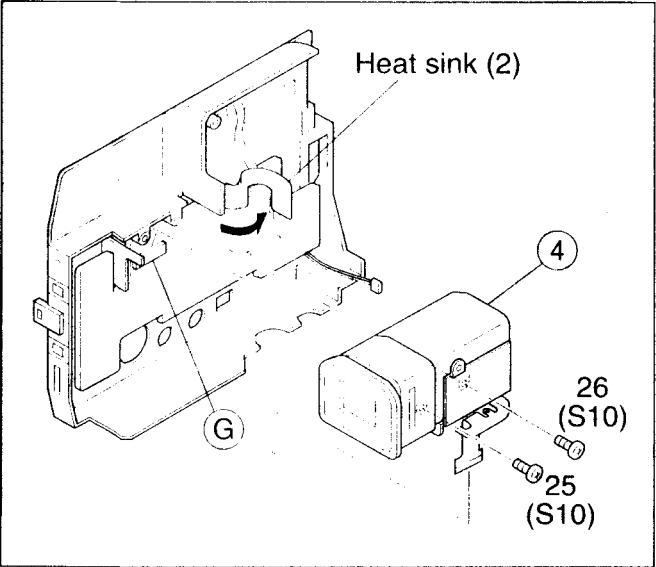


Fig. 1-3-4

⑤ MONITOR board assembly / ⑥ Speaker

1. Disconnect one connector (H) by pulling it out and remove three screws (27, 28, 29). Then, remove the MONITOR board assembly.
2. Letting the speaker remaining as it is, remove one screw (30) retaining the bracket (for speaker). After removing the bracket, remove the speaker and the MONITOR board assembly.

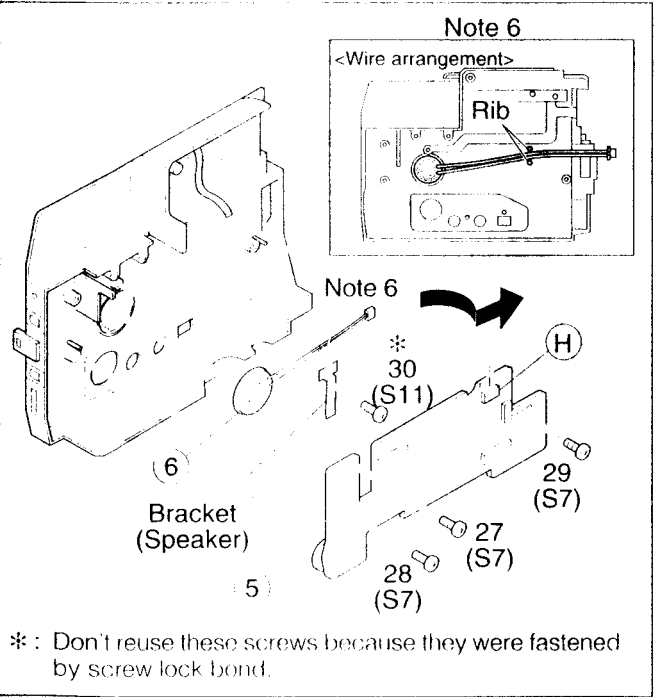


Fig. 1-3-5

⑦ JA/D-IF board assembly

Disconnect one connector (J) by pulling it out and remove one screw (31). Then, remove the JA/D-IF board assembly.

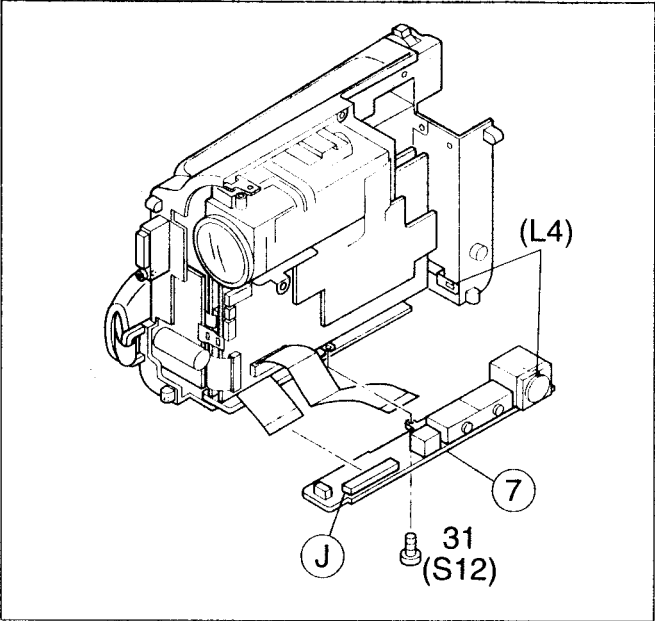


Fig. 1-3-6

⑧ REG board assembly

Unhook (L5) and disconnect one connector (K) while pulling it out. Then, remove the REG board assembly while pulling out the other connector (L) for disconnection.

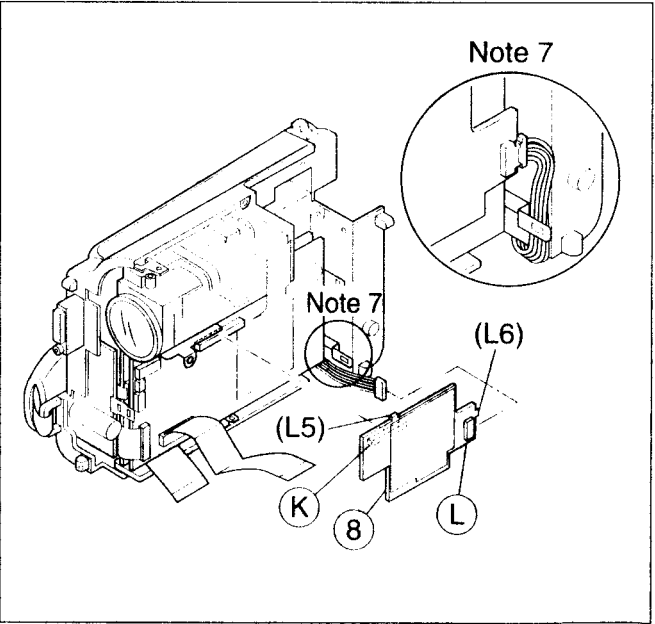


Fig. 1-3-7

(9) OP block assembly

Disconnect two connectors (M, N) and remove two screws (32, 33). Then, remove the OP block assembly.

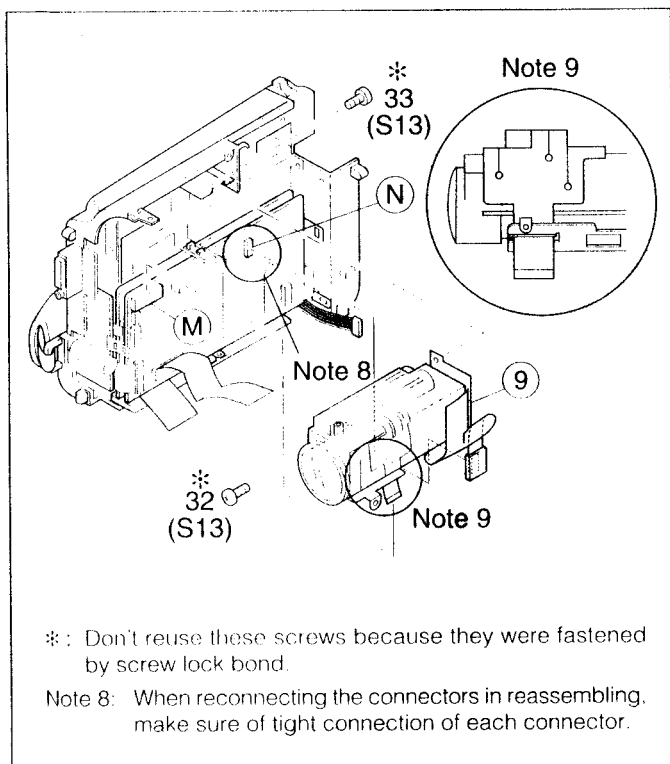


Fig. 1-3-8

(10) MAIN2 board assembly

First disconnect two connectors (O, P), next disconnect one connector (L7) while unhooking (L7). Then, remove the MAIN2 board assembly.

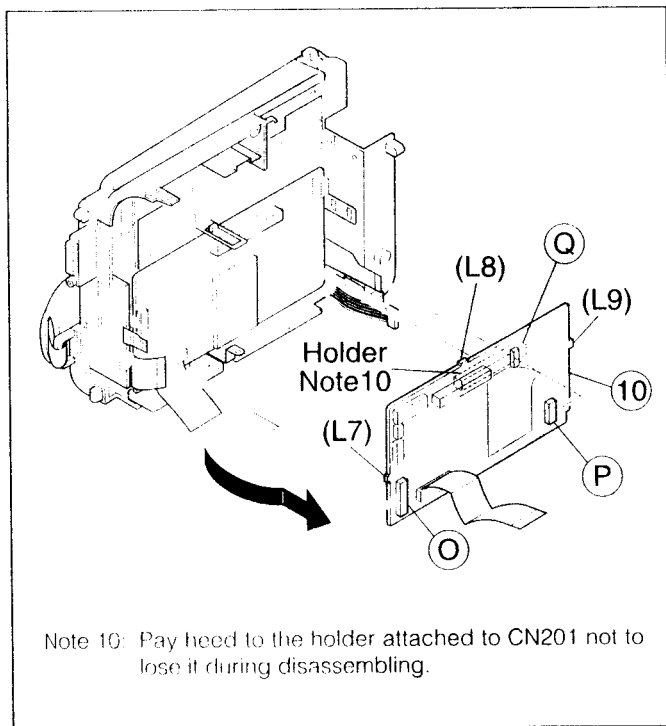


Fig. 1-3-9

(11) Lower case assembly

1. Remove three screws (34 to 36) and then remove the bracket (bottom).
2. Remove two screws (37, 38) and then remove the base.
3. Disconnect one connector (R) and remove three screws (39 to 41). Holding the cassette cover open, remove the lower case assembly.

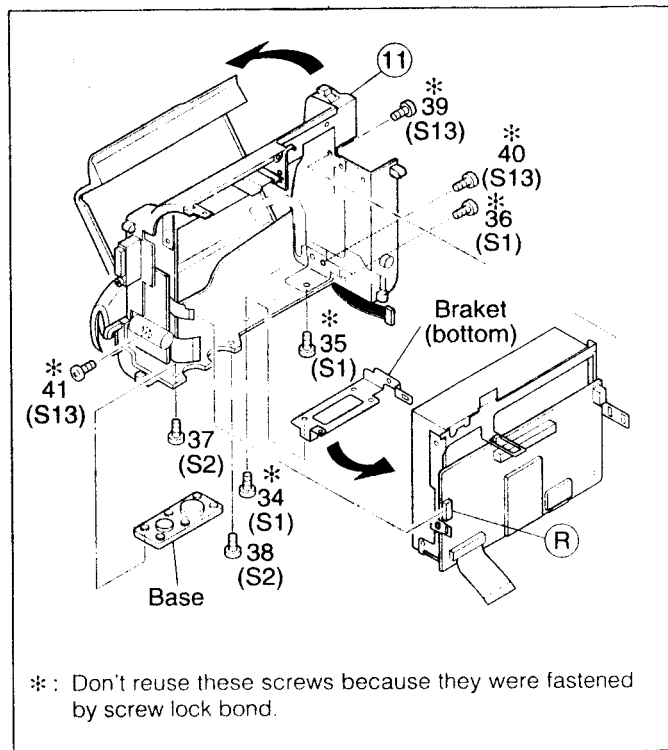


Fig. 1-3-10

(12) Rear cover assembly / (13) Battery terminal unit

1. Remove four screws (42 to 45), and then remove the rear cover assembly while sliding it in the direction of the arrow. (see Fig. 1-3-11)
2. Remove one screw (46) and then remove the battery terminal unit while sliding it in the direction of the arrow. (see Fig. 1-3-11)

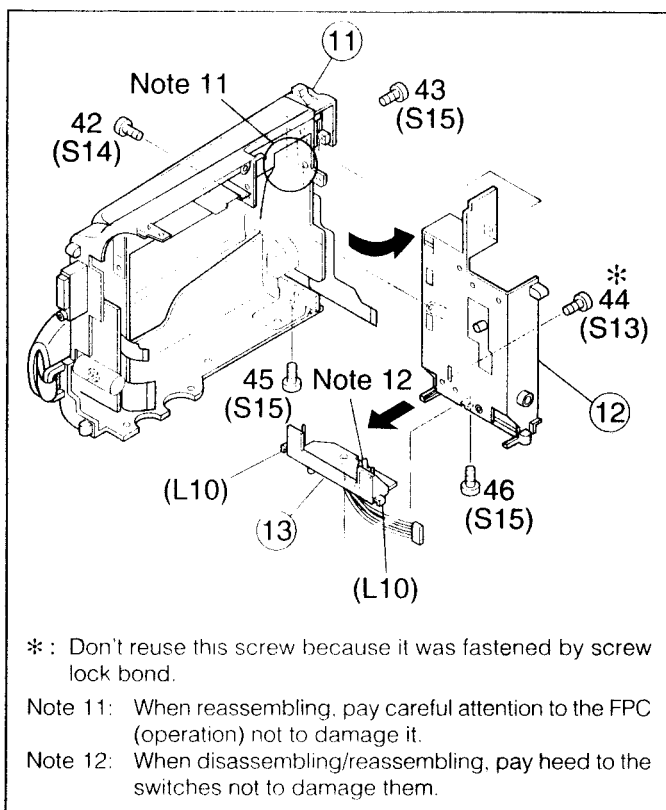


Fig. 1-3-11

(15) MDA board assembly

1. Disconnect four connectors (S, T, U, V) and remove two screws (50, 51). Then, remove the MDA board assembly while shifting it in the directions of the arrows.

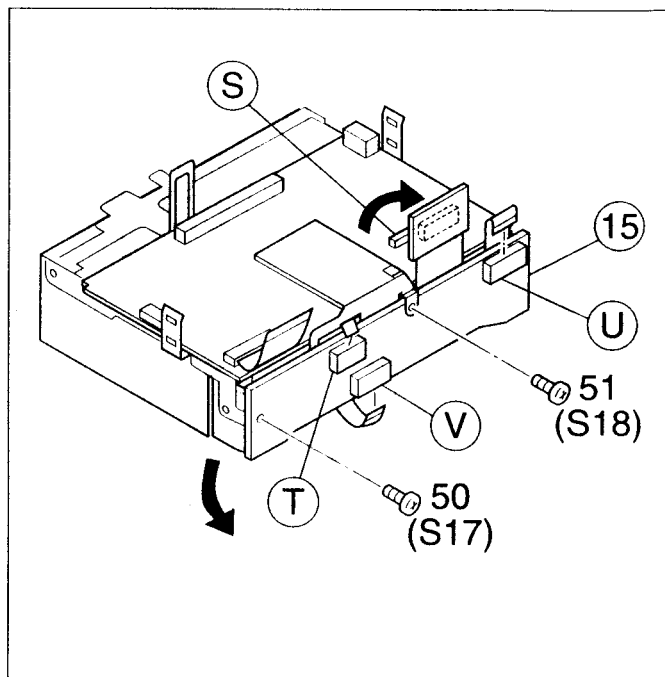


Fig. 1-3-13A

(14) STROBE board assembly

Holding the jack cover open, remove three screws (47 to 49). Then remove the STROBE board assembly.

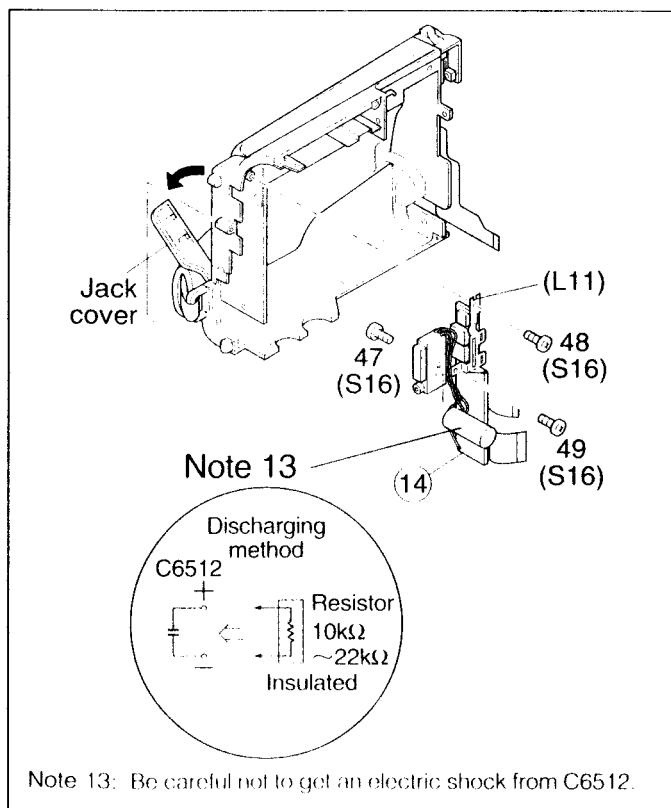


Fig. 1-3-12

2. Open the board assembly as shown in the figure below. After disconnecting one connector (W) on the back side of the MDA board assembly, remove the MDA board assembly.

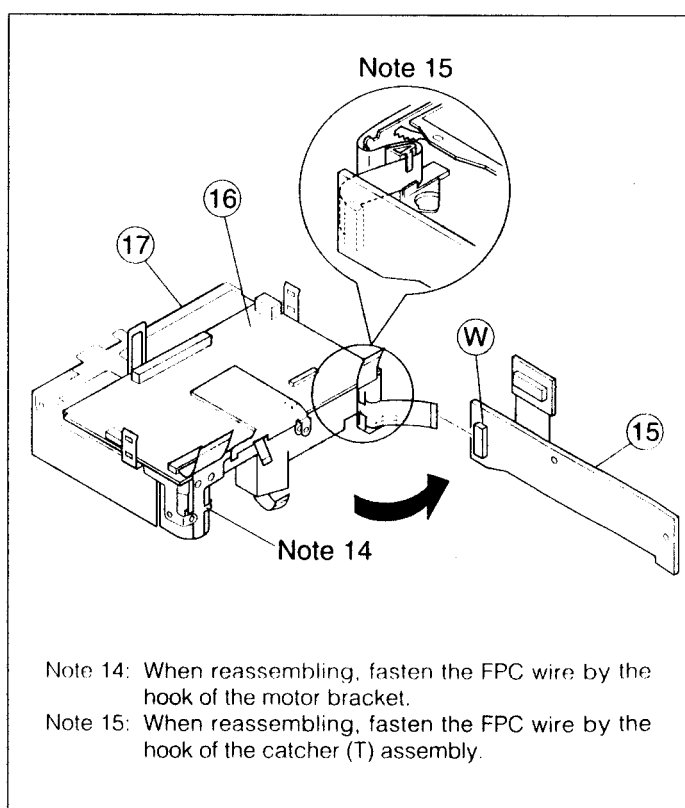


Fig. 1-3-13B

⑩ MAIN1 board assembly

1. Remove one screw (52) first and the shield cover next.
2. Disconnect two connectors (X), (Y) and then remove the MAIN1 board assembly while unhooking it from (L14).

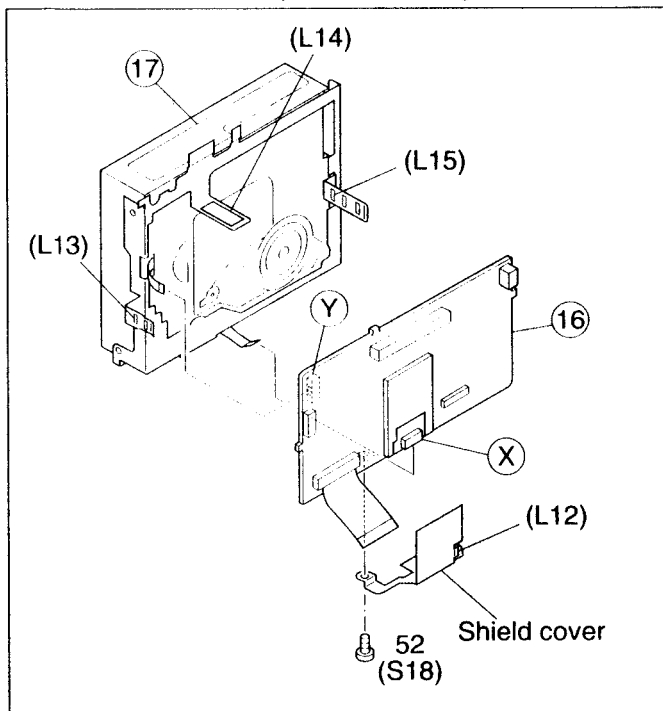


Fig. 1-3-14

⑪ Mechanism assembly

Remove two screws (53, 54) and then remove the mechanism assembly while shifting it sideways for getting it free from two hooks (L16).

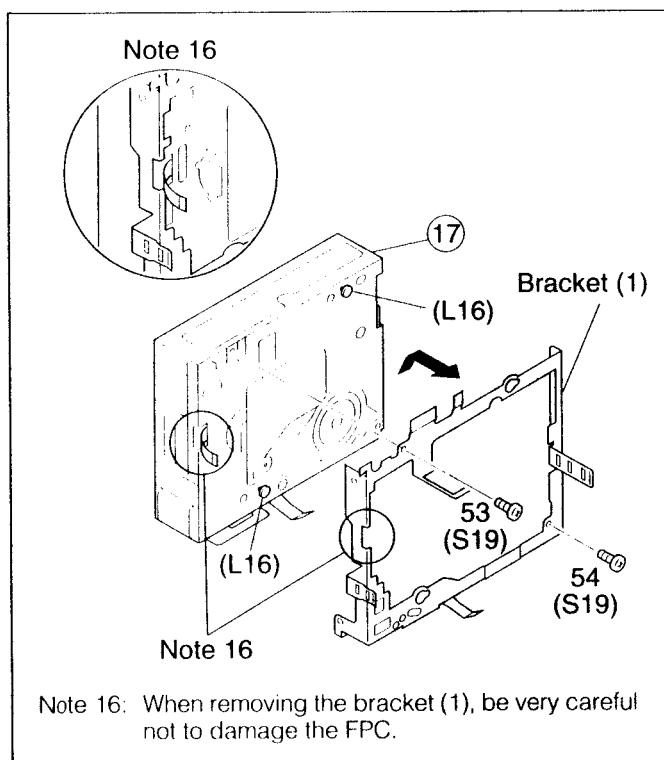


Fig. 1-3-15

1.4 DISASSEMBLING/REASSEMBLING LCD MONITOR ASSEMBLY

③ LCD monitor assembly/Hinge assembly

1. Remove five screws (55 to 59) and disengage seven pawls (L17 to L23) on the L3 side (LCD open button) one after another in numerical order. Then, remove the LCD monitor cover assembly.
2. Unlock two connectors (Z, a) and remove the hinge assembly while lifting it up together with the MONITOR BL board assembly off the monitor case assembly. Unhook (L24) and then raise the LCD module together with the MONITOR board assembly by one side as shown in the figure so that (L25) is disengaged from the bracket. Then, remove the MONITOR board assembly and LCD module together with.
3. Turn the hinge assembly at an angle of 90° in the direction of the arrow in order to peel off the sheet and remove one screw (60). Then remove the hinge cover 1 unhooking four pawls (L26 to L29) on both sides. Next, remove the hinge cover 2 from the hinge assembly and remove the rigging from the concave in the hinge cover 2. Last, pull the hinge cover 2 out of the FPC wire.

※: Don't reuse these screws because they were fastened by screw lock bond.

Note 22: Wind the FPC assembly around the hinge by 3.5 turns

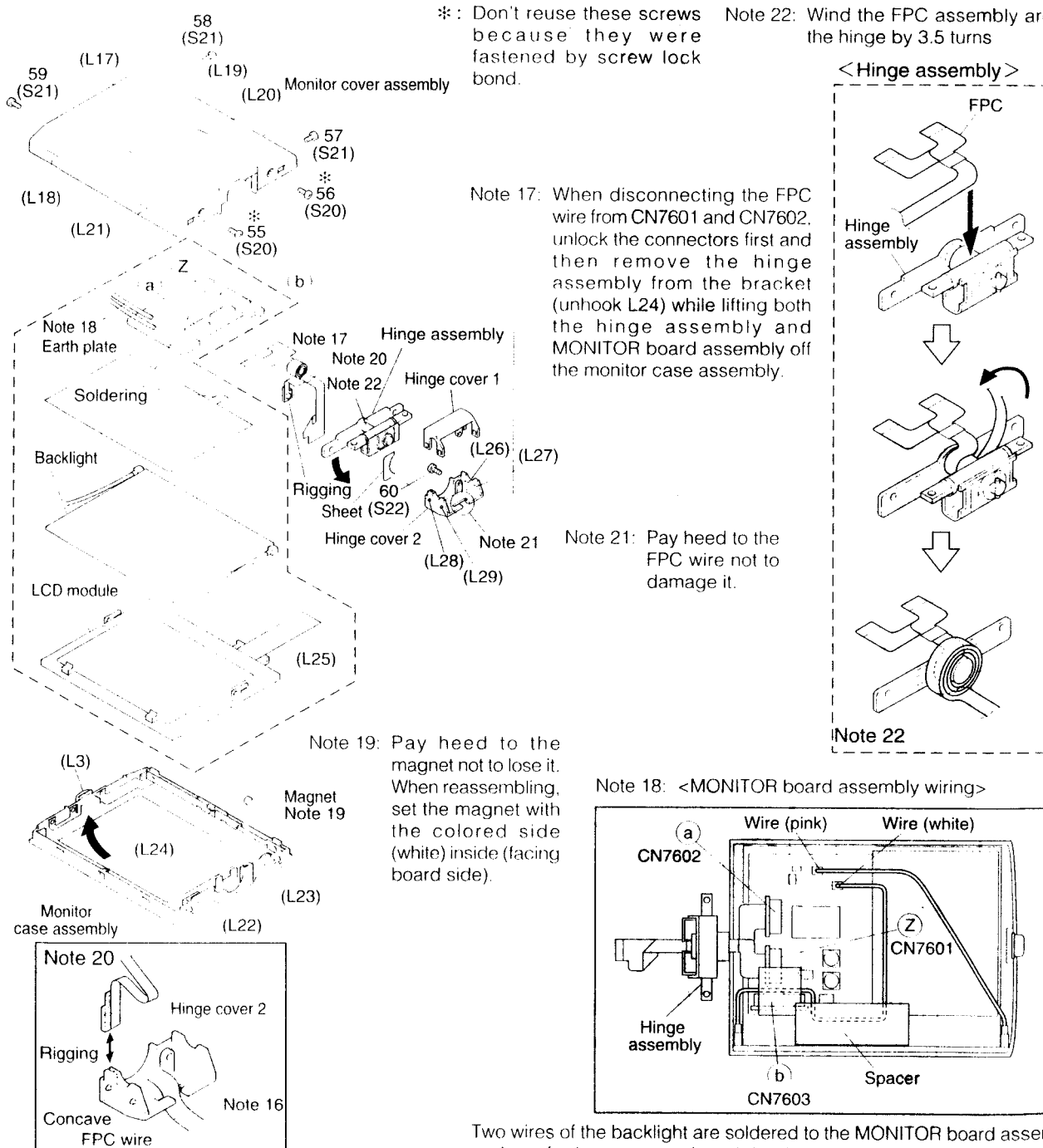


Fig. 1-4-1

1.5 DISASSEMBLING/REASSEMBLING ELECTRONIC VIEWFINDER ASSEMBLY

④ Disassembling/reassembling electronic viewfinder assembly

For disassembling the electronic viewfinder assembly, first divide it into two sections, namely, the section I: case assembly, and the section II: holder (LCD/switch) and hinge assembly.

1.5.1 Dividing into two sections - Section ①: case assembly, and Section ②: holder (LCD/switch) and hinge assembly

1. Remove four screws (61 to 64).
2. Draw out the case assembly and bend it in the direction of the arrow to unhook it from (L30). Then, the case assembly (section I) can be separated from the holder (LCD/switch) and hinge assembly (section II).

1.5.2 Disassembling section ①: case assembly

1. Remove the eyecup.
2. Remove six screws (65 to 70) and the case (for bottom).
3. Remove two screws (71, 72) and the lens assembly.

1.5.3 Disassembling section ②: holder (LCD/switch) and hinge assembly

1. Peel off the spacers on both sides.

Note 24: Spacers that were once removed must not be reused as a rule. When removing spacers, prepare new ones for replacement.

2. Draw the FPC assembly out of the part (a) of the hinge assembly.

Note 25: Carefully draw the FPC assembly not to damage it.

3. After removing the spacers, remove the holder (LCD) while unhooking it from four pawls (L31 to L34), and then disconnect the FPC assembly from CN7650.

4. Remove five screws (73 to 77), and draw the FPC assembly out of the part b of the hinge assembly while removing the hinge assembly.

5. Draw the FPC assembly from the inside of the holder (switch).

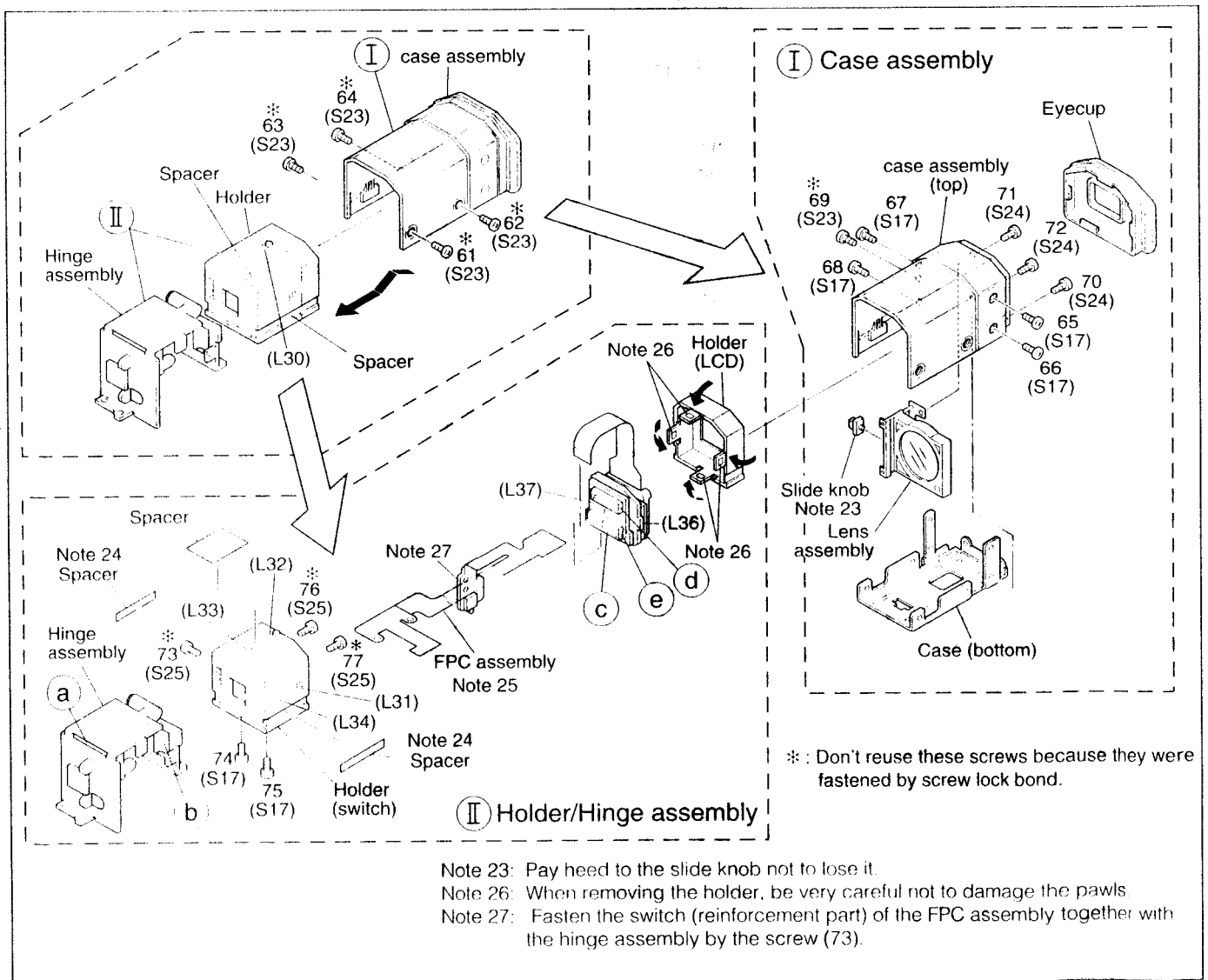


Fig. 1-5-1

1.6 DISASSEMBLY/ASSEMBLY OF OP BLOCK

1.6.1 Replacement of CCD image sensor

- Note:**
- Pay the most careful attention to the transparent glass, optical filter and master lens of the CCD image sensor not to get them soiled, dusty or damaged. If some of them gets dirty with fingerprints, etc. wipe it out with the super cleaning cloth, silicone paper or clean chamois, etc.
 - The CCD image sensor is occasionally shipped from the factory as an orange-colored protection seal is applied onto its transparent glass. If so, leave the protection seal as it is and remove it just before setting the new CCD image sensor in the OP block for replacement.

1.6.2 How to remove CCD image sensor

1. Remove two screws (78, 79) and then remove the bracket (OP).
2. Unsolder the shield case (CCD) by two points and remove it.

3. Remove two screws (80, 81) fixing the CCD base, and remove the component parts enclosed by a broken line in the figure from the OP block assembly. At that time, pay heed to the optical low-pass filter, spacer rubber, etc. not to drop them.

1.6.3 How to reassemble CCD image sensor to OP block assembly

1. Set the spacer rubber on the CCD side of the optical low-pass filter, and then incorporate the optical low-pass filter together with the spacer rubber into the OP block assembly.
2. Fit the CCD base assembly to the OP block assembly with care not to move the spacer rubber.
3. Fasten the CCD base assembly and optical low-pass filter together with the spacer rubber by two screws (80, 81).
4. Solder the shield case (CCD) to the OP block by two points.
5. Fit the bracket (OP) to the OP block and fasten it with two screws (78, 79).

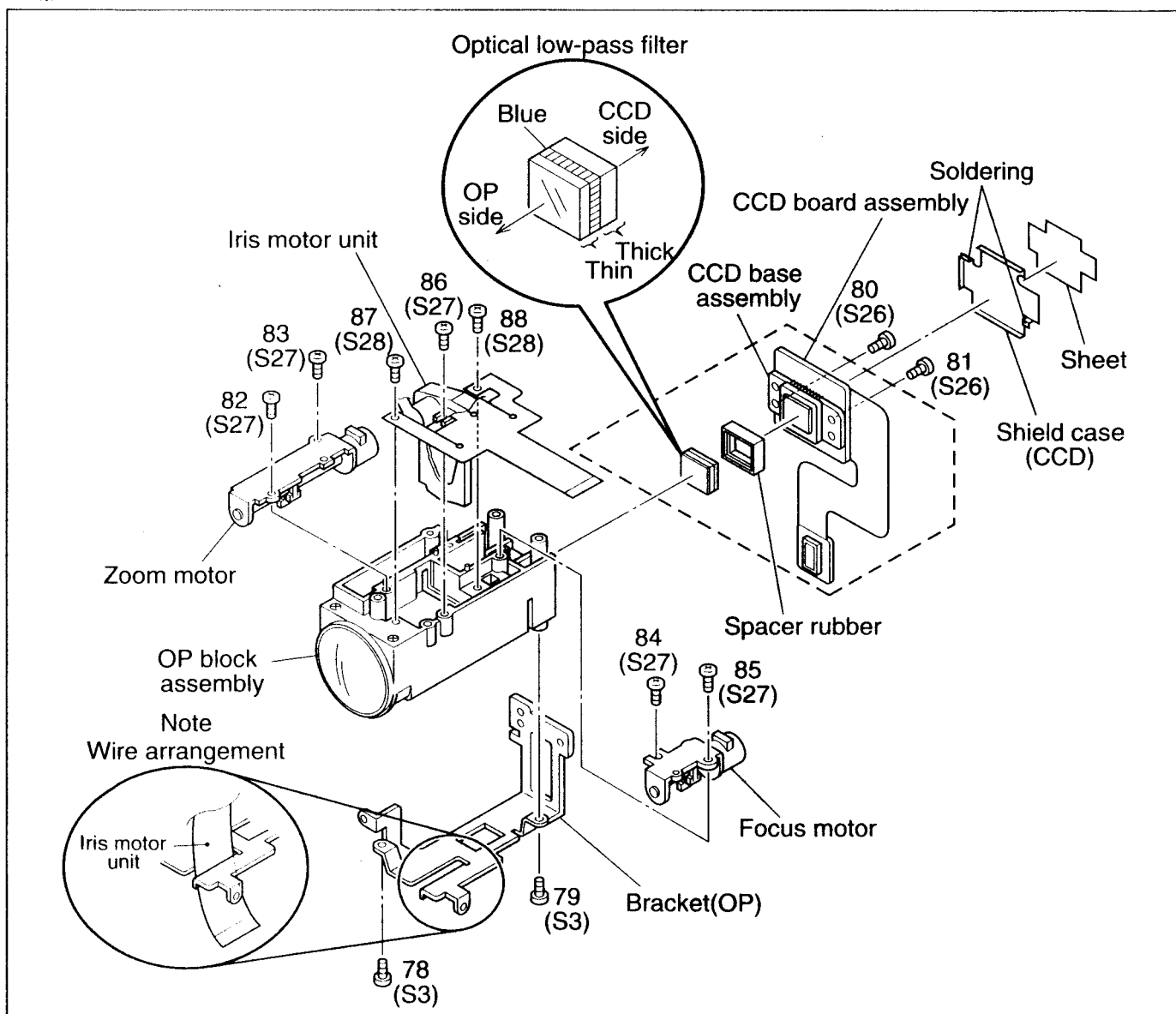


Fig. 1-6-1

LIST <DISASSEMBLY>

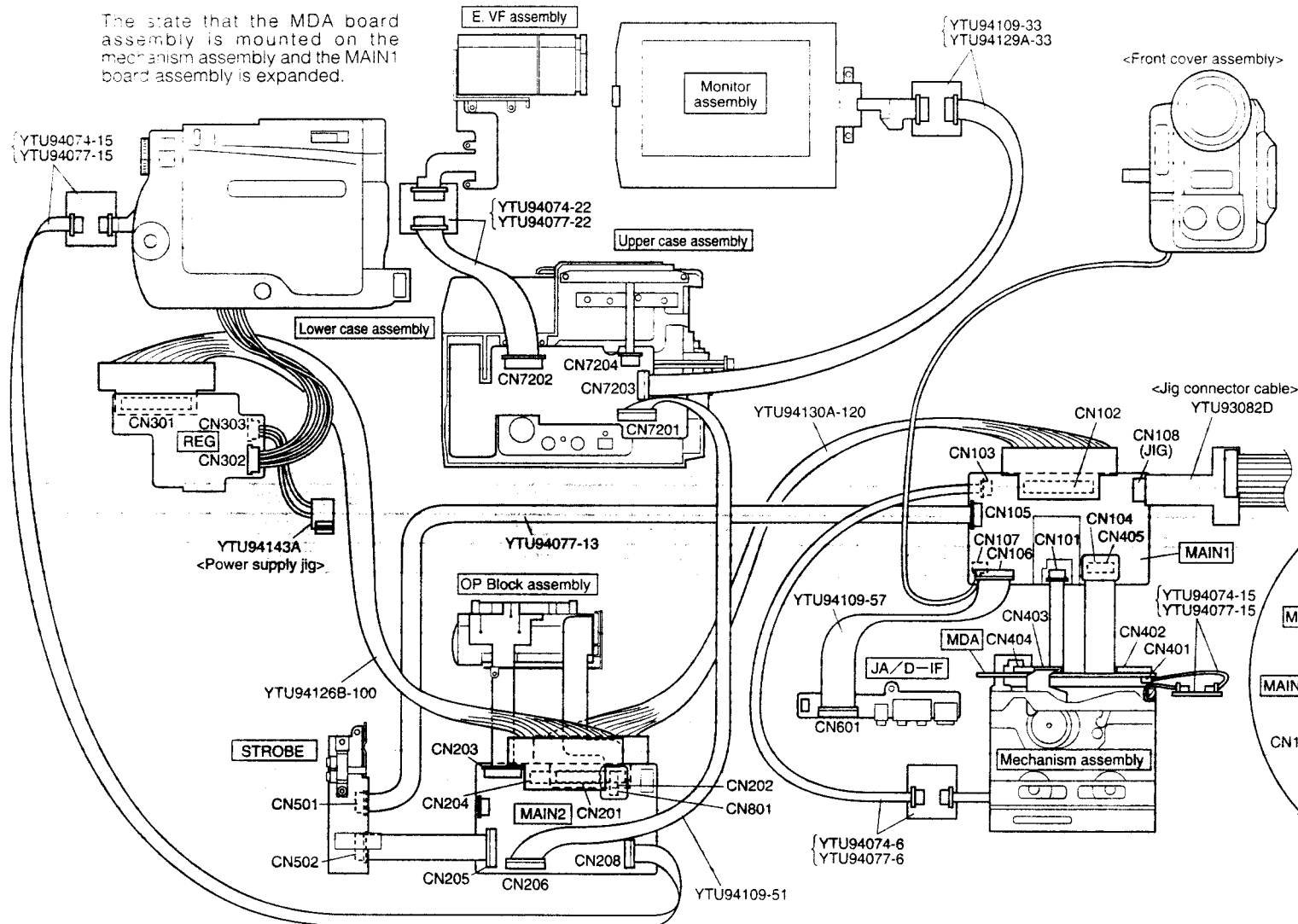
: Connector of removed component during disassembly

: Connector or removed component during disassembly									
Order	Fig. No.	Connector	Connected Point				Number of Pins	Class	Patch cord
1	1-3-1	Ⓐ	MAIN2 PWB	CN210	↔ W/B	-	3PIN	WIRE	NC
2	1-3-1	Ⓑ	MAIN2 PWB	CN207	↔ SHUTTER	-	8PIN	FPC	NC
3	1-3-1	Ⓒ	MAIN1 PWB	CN107	↔ MIC UNIT	-	3PIN	WIRE	DIRECT
4	1-3-2	Ⓓ	JA/D-IF PWB	CN602	↔ SPEAKER	-	2PIN	WIRE	NC
5	1-3-2	Ⓔ	MAIN2 PWB	CN206	↔ MONITOR PWB	CN7201	51PIN	FPC	YTU94109-51(CHANGE)
6	1-3-3	Ⓕ	MONITOR PWB	CN7203	↔ MONI BL/MONI RVS	CN7601,CN7602	33PIN	FPC	YTU94109-33 / YTU94129A-33
7	1-3-4	Ⓖ	MONITOR PWB	CN7202	↔ VF SW/VF SUB	CN7650	22PIN	FPC	YTU94077-22 / YTU94074-22
8	1-3-5	Ⓖ	MONITOR PWB	CN7204	↔ DECK OPE	-	6PIN	FPC	DIRECT
9	1-3-6	Ⓙ	MAIN1 PWB	CN106	↔ JA/D-IF PWB	CN601	57PIN	FPC	YTU94109-57(CHANGE)
10	1-3-7	Ⓚ	MAIN2 PWB	CN204	↔ REG PWB	CN301	100PIN	B-B	YTU94126B-100
11	1-3-7	Ⓛ	REG PWB	CN302	↔ BATTERY	-	5PIN	WIRE	DIRECT
12	1-3-8	Ⓜ	MAIN2 PWB	CN203	↔ OP BLOCK	-	22PIN	FPC	DIRECT
13	1-3-8	Ⓝ	MAIN2 PWB	CN202	↔ CCD(OP BLOCK)	CN801	30PIN	B-B	DIRECT
14	1-3-9	Ⓞ	MAIN2 PWB	CN205	↔ STROBE PWB	CN502	22PIN	FPC	NC
15	1-3-9	Ⓟ	MAIN2 PWB	CN208	↔ OPE UNIT	-	15PIN	FPC	YTU94077-15 / YTU94074-15
16	1-3-9	Ⓢ	MAIN1 PWB	CN102	↔ MAIN2 PWB	CN201	120PIN	B-B	YTU94130A-120
17	1-3-10	Ⓡ	MAIN1 PWB	CN105	↔ STROBE PWB	CN501	13PIN	FPC	YTU94077-13(CHANGE)
18	1-3-13A	Ⓢ	MAIN1 PWB	CN104	↔ MDA PWB	CN405	40PIN	B-B	DIRECT
19	1-3-13A	Ⓣ	MDA PWB	CN404	↔ LOADING MOTOR	-	6PIN	FPC	DIRECT
20	1-3-13A	Ⓤ	MDA PWB	CN402	↔ CAPSTAN MOTOR	-	18PIN	FPC	DIRECT / YTU94077-18 / YTU94074-18
21	1-3-13A	Ⓥ	MDA PWB	CN403	↔ DRAM MOTOR	-	11PIN	FPC	DIRECT / YTU94077-11 / YTU94074-11
22	1-3-13B	Ⓦ	MDA PWB	CN401	↔ SENSOR	-	15PIN	FPC	YTU94077-15 / YTU94074-15
23	1-3-14	Ⓧ	MAIN1 PWB	CN101	↔ MECHA(HEAD)	-	8PIN	FPC	DIRECT
24	1-3-14	Ⓨ	MAIN1 PWB	CN103	↔ ROTARY ENCODER	-	6PIN	FPC	YTU94077-6 / YTU94074-6 / DIRECT
25	1-4-1	Ⓩ	MONITOR BL	CN7601	↔ HINGE	-	16PIN	FPC	DIRECT
26	1-4-1	ⓐ	MONITOR BL	CN7602	↔ HINGE	-	16PIN	FPC	DIRECT
27	1-4-1	ⓑ	LCD PANEL	CN7603	↔ LCD PANEL	-	24PIN	FPC	DIRECT
28	1-5-1	ⓒ	VF SUB PWB	CN7650	↔ FPC ASSY	-	20PIN	FPC	DIRECT
29	1-5-1	ⓓ	VF SUB PWB	CN7651	↔ LCD PANEL	-	16PIN	FPC	DIRECT
30	1-5-1	ⓔ	VF SUB PWB	CN7652	↔ VF BL	CN7670	20PIN	B-B	DIRECT
31	-		MAIN1 PWB	CN108	↔ JIG CONN.	-	18PIN	WIRE	YTU93082D (JIG CONNECTOR)
32	-		REG PWB	CN303	↔ DC IN	-	2PIN	WIRE	YTU94143A (POWER SUPPLY JIG)

Table 1-7-1

TYPE I

The state that the MDA board assembly is mounted on the mechanism assembly and the MAIN1 board assembly is expanded.



Note: Connect the wire of the W/B board to CN210 of the MAIN2 board depending on the situation.

TYPE II

The state that the MAIN1 board assembly is mounted on the back of the mechanism assembly and the MDA board assembly is expanded.

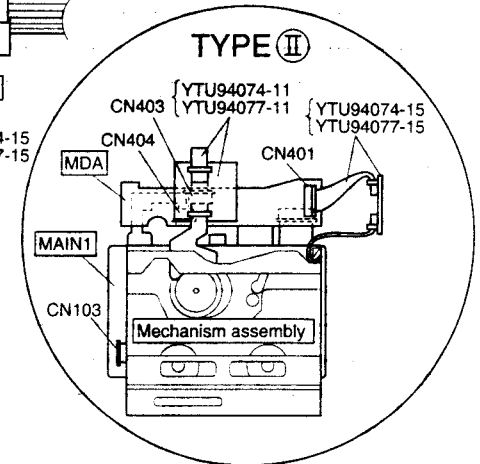


Fig.1-8-1

1.9 HOW TO TAKE OUT TAPE

In the event that the cassette tape cannot be ejected when it is loaded in the mechanism, take it out according to the following procedure. However, keep it in mind that this procedure is an emergency measure to the end and it can be applied to the case that the tape cannot be ejected not by a mechanism failure such as out of phase, etc. but by an electrical failure. From viewpoints of the workability and reliability, it is recommended to take out the tape after removing all exterior parts.

1. Disconnect the power supply (battery, DC cord) from the set.
2. Open the cassette cover and remove four screws (89 to 92).

Note: Since screw lock bond had been applied to the tip of the respective screws, don't reuse the screws if they were once removed. Be sure to use new screws when reassembling.

In the case the cabinet part (lower case assembly) has been removed, it is not required to remove these screws.

3. Remove the cassette cover from the arms and raise the arms so that you can proceed in the tape removal job. At that time, pay careful attention to the FPC not to damage it.
4. Connect 3 V DC to the poles on the top of the loading motor to slide the slide deck assembly to the front side, and stop the motor when both the pole base assemblies come into the unloading status inside the tape. Since the tape is not

wound up and remains as it was, pay heed to the tape neither to damage it nor to soil it with grease, etc. If both the pole base assemblies continue unloading inside the tape, the mechanism enters the eject mode and the cassette housing assembly is accordingly lifted up. If it occurs, it may cause damage to the tape because the exposed part of the tape may be caught in the cassette lid. It is recommended to hold the cassette lid open with adhesive tape or the like to prevent it from shutting even when the cassette housing assembly is lifted up.

5. Turn the center gear assembly with a precision tool having a sharp-pointed tip (chip IC replacement jig, etc.) in the direction of the arrow to wind up the tape. At that time, be careful not to damage the tape.

If the tape cannot be wound up though the center gear assembly is turned in the indicated direction, the idler arm assembly is positioned not to engage with the reel disk assembly. In such the case, fine adjust the mechanism mode by shifting (slightly return the mechanism mode to the loading direction).

6. Confirming that the tape is completely wound up, continue unloading until the mechanism reaches the eject position and then take out the tape.
7. Check the manually wound part of the tape if there is grease or other soil remaining on it or not. At the same time, check the mechanism assembly, particularly the tape transport system, if there is something soiled with grease, etc. or not.

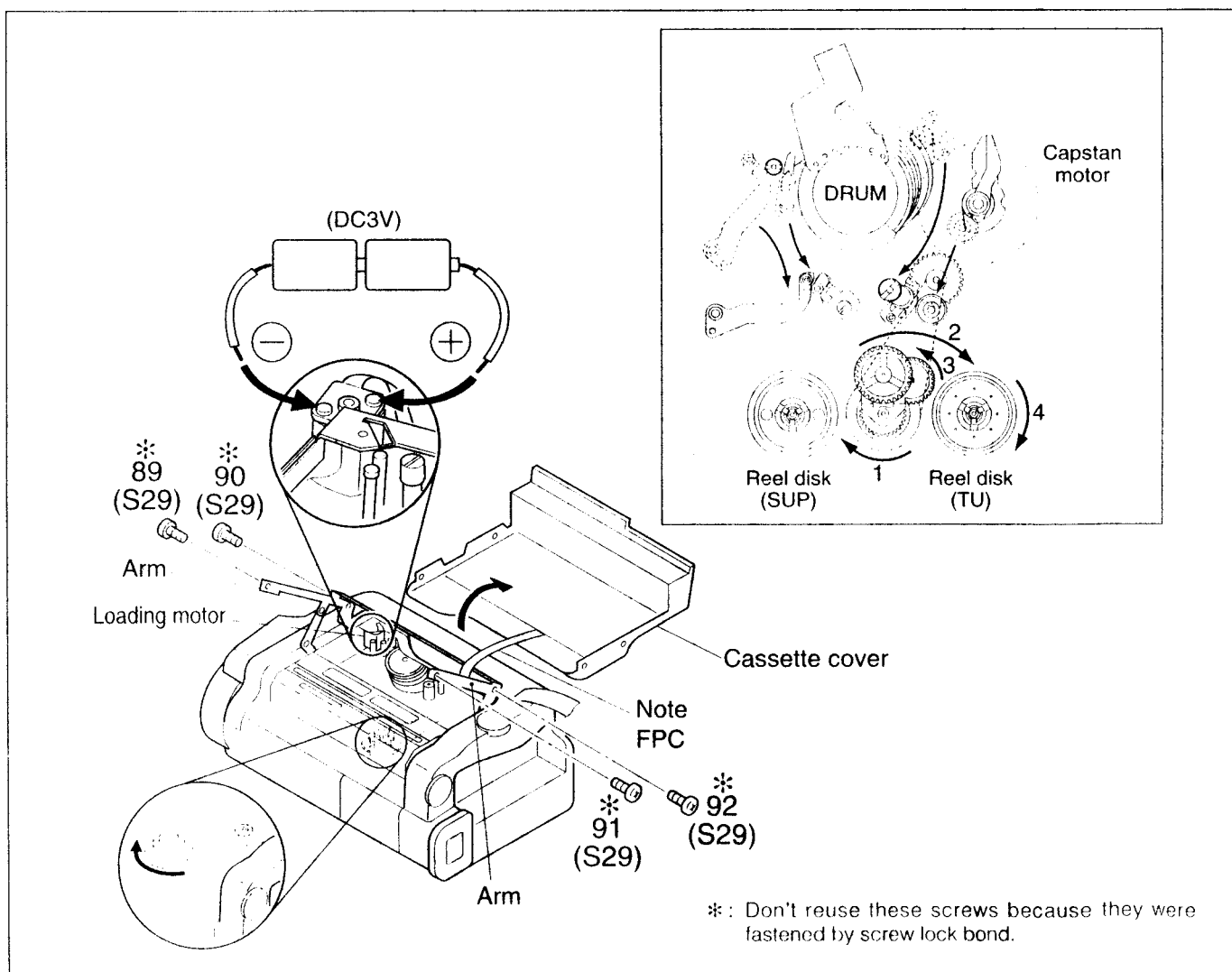


Fig. 1-9-1

Screw Management Table

<Cabinet part>

Part No. →	①							② / ③																	
Removing order of screw →	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22			
Place to stick screw →	*														*	*								*	*
Reference drawing →	1-3-1							1-3-2																	
Screw tightening torque →	I							I																	

Part No. →	③		④		⑤			⑥	⑦	⑧	⑨		⑩	⑪							
Removing order of screw →	23	24	25	26	27	28	29	30	31	—	32	33	—	34	35	36	37	38	39	40	41
Place to stick screw →	*	*						*		—	*	*	—	*	*	*			*	*	*
Reference drawing →	1-3-3		1-3-4		1-3-5			1-3-6		1-3-7	1-3-8		1-3-9	1-3-10							
Screw tightening torque →	Ⅱ		Ⅰ		Ⅰ			Ⅰ		—	Ⅰ		—	Ⅰ							

Part No. →	⑫				⑬	⑭			⑮			⑯	⑰		⑱					
Removing order of screw →	42	43	44	45	46	47	48	49	51	51	—	52	53	54	55	56	57	58	59	60
Place to stick screw →	*										—				*	*				
Reference drawing →	1-3-11					1-3-12			1-3-13A		1-3-13B	1-3-14	1-3-14		1-4-1					
Screw tightening torque →	I					III	II	I	I			I	I		III					

Part No. →	④																
Removing order of screw →	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77
Place to stick screw →	*	*	*						*				*			*	*
Reference drawing →	1-5-1																
Screw tightening torque →	Ⅲ																

Part No. →	⑨											—			
Removing order of screw →	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92
Place to stick screw →													*	*	*
Reference drawing →	1-6-1											1-9-1			
Screw tightening torque →	I	I	IV	IV	IV	IV	IV	IV	IV	IV	IV	III			

Notes

- 1) * : Screw which screw lock bond is applied to. Don't reuse any screw marked with * if it was once removed. Be sure to replace it with new one each time screwing it.
 2) Pay careful attention to tightening torque for each screw.

I : 0.075N·m (0.75kgf·cm)

II : 0.15N·m (1.5kgf·cm)

III : 0.07N·m (0.7kgf·cm)

IV : 0.12N·m (1.2kgf·cm)

Table 1-10-1

1.11 REGARDING STROBE LIGHT EMITTING CAPACITOR

Warning against electric shock!!

If the strobe light emitting capacitor (C6512 on the STROBE board assembly) is charged, it may cause an electric shock during disassembling. Before proceeding to inspection and service of the set, check the charge status of this capacitor. When it has been charged, be sure to discharge it forcibly before proceeding to service job. For discharging method, refer to Fig. 1-3-12 on page 1-8.

1.12 PRECAUTIONS ON HANDLING THE LITHIUM SECONDARY BATTERY

This unit is equipped with a button-type lithium secondary battery. Improper handling of this battery may cause heat to be generated, damaged, fires or leakage. Always follow the precautions below.

- ① Be sure not to shortcircuit, disassemble, deform and heat it.
- ② Carefully set the lithium battery so that its positive and negative poles are correctly connected respectively.
- ③ Don't solder anything directly to the lithium battery.
- ④ When replacing the lithium battery, be sure to do it with correct one referring to the part number appearing in the parts list of the manual.
- ⑤ When keeping the lithium battery, avoid direct sunlight, high temperature and high humidity.
- ⑥ When replacing the lithium battery, avoid using metallic tools such as tweezers, etc. for picking it up because such the tool may cause shortcircuit.
- ⑦ When disposing the lithium battery, cover the electrodes with adhesive tape or the like for insulation.

1.13 EMERGENCY DISPLAY

When there is something abnormal with this Digital VideoMovie during operation, an error number (Example: E01) representing the trouble appears on the LCD monitor.

LCD DISPLAY	Emergency mode	Symptom	Surveillance mode	Mode to shif
E01	LOADING	The mechanism does not shift to the next mode (in the LOADING direction) though it has passed more than 4 seconds after the mechanism was required to do it.	LOADING	Mode continues
E02	UNLOADING	The mechanism does not shift to the next mode (in the UNLOADING direction) though it has passed more than 4 seconds after the mechanism was required to do it.	UNLOADING	Mode continues
E03	REEL FG	No REEL FG (TU or SUP) signal is input for more than 4 seconds in the mode that the reel must rotate.	When reel is rotating.	STOP
E04	DRUM FG	No DRUM FG signal is input for more than 3 seconds in the mode that the drum motor must rotate.	When drum is rotating.	STOP
—	—	—	—	—
E06	CAPSTAN FG	No CAPSTAN FG signal is input for more than 1.5 seconds in the mode that the capstan motor must rotate (the pinch roller is pressed to the capstan).	When capstan is rotating (pinch roller is pressed to it).	STOP

Note : Only the operation to turn on/off the power is effectual in any emergency mode.

SECTION 2

MECHANISM ADJUSTMENT

2.1 PRELIMINARY REMARKS ON ADJUSTMENT AND REPAIR

2.1.1 Precautions

1. When fastening parts, pay careful attention to the tightening torque of each screw. Unless otherwise specified, tighten a screw with the torque of 0.04 N·m (0.4 kgf·cm).
2. Be sure to disconnect the set from the power supply before fastening and soldering parts.
3. When disconnecting/connecting wires, be careful not to get them and their connectors damaged. (Refer to the Section 1.)
4. When replacing parts, be very careful neither to damage other parts nor to fit wrong parts by mistake.

2.1.2 Necessary jigs

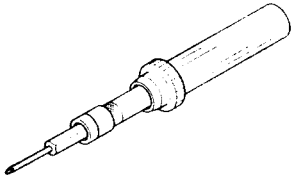
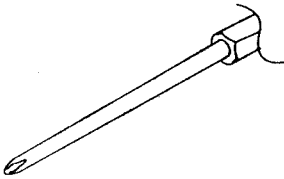
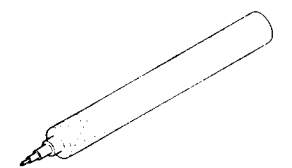
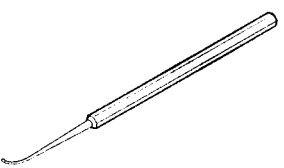
1	Torque driver YTU94088	2	Bit YTU94088-003
			
3	Slit washer fitting jig YTU94121A	4	Chip IC replacement jig PTS40844-2
			

Fig. 2-1-1

2.1.3 Notes on disassembling/reassembling procedure

The disassembling procedure table (Table 2-2-2 on page 2-5, a part of the table is shown below for reference) shows the procedure to disassemble/reassemble mechanism parts. Carefully read the following explanation before starting actual disassembling/reassembling work. The item numbers (circled numbers) in the following explanation correspond to those appearing under respective columns of the table.

- ① : Circled numbers appearing in this column indicate the order to remove parts. When reassembling, follow these numbers in the reverse order. Circled numbers in this column correspond to those appearing in drawings of this section.
- ② : This column shows part names corresponding to circled numbers in the left column.
- ③ : The symbol (T or B) appearing in this column shows the side which the objective part is mounted on.

T = the upper side, B = the lower side

- ④ : Symbols appearing in this column indicate drawing numbers.
- ⑤ : This column indicates parts and points such as screws, washers, springs, and others to be removed/fitted for disassembling/reassembling the mechanism. Besides such the parts, this column occasionally indicates working points.
 P = Spring
 W = Washer
 S = Screw
 * = Lock (L), soldering (SD), shield, connector (CN), etc.

Example

- Remove (W1) = Washer W1.
- * Remove the solder at (SD1) = Point SD1.
- * Disconnect (A) = Connector (A).

- ⑥ : Numbers in this column represent the numbers of notes in the text. For example, "1" means "Note 1". (For parts that need phase adjustment after reassembling, refer to "2.2.7 Check and adjustment of mechanism phase".)
- ⑦ : This column indicates required after-disassembling/reassembling work such as phase adjustment or mechanism adjustment.

2.1.4 Screws and washers used in mechanism

Table 2-1-1 shows screws and washers used in the mechanism by the part numbers with their respective symbols, shapes and colors.

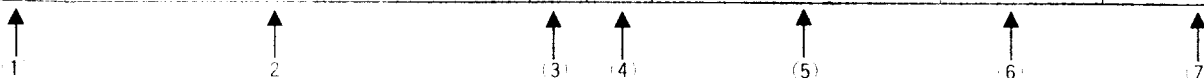
When disassembling/reassembling the mechanism, be careful not to make any mistake in removing/refitting screws and washers.

Symbol	Shape	Parts No.
(S1)		YQ43893-4
(S2)		YQ43893
(S3)		YQ43893-2
(S4)		LY30018-037A

Symbol	Shape	Parts No.
W1		YQ44246
W2		YQ44246-2

Table 2-1-1

Step	Part Name		Fig.	Point	Note	Remarks
A	Cassette housing assembly	T	M1	3(S1),(L1)-(L4)	1,28,29,30	Adjustment
①	Reel disk (SUP) assembly	T	M2	(W1)	2,3	
(2)	Reel disk (TU) assembly	T	M2	(W1)	2,3	



2.2 DISASSEMBLING/REASSEMBLING MECHANISM ASSEMBLY

2.2.1 General statement

The mechanism should generally be disassembled/reassembled in the EJECT mode (ASSEMBLY mode). (Refer to Fig. 2-2-1.)

However, when the mechanism is removed from the main body, it is set in the STOP mode. Therefore, it is required to shift the mechanism mode from the STOP mode to the EJECT mode after the mechanism is removed from the main body. In such the case, supply 3 V DC to the electrode on the top of the loading motor to enter the mechanism mode into the EJECT mode.

<Mechanism assembly/Cassette housing assembly>

<Back side of the mechanism assembly>

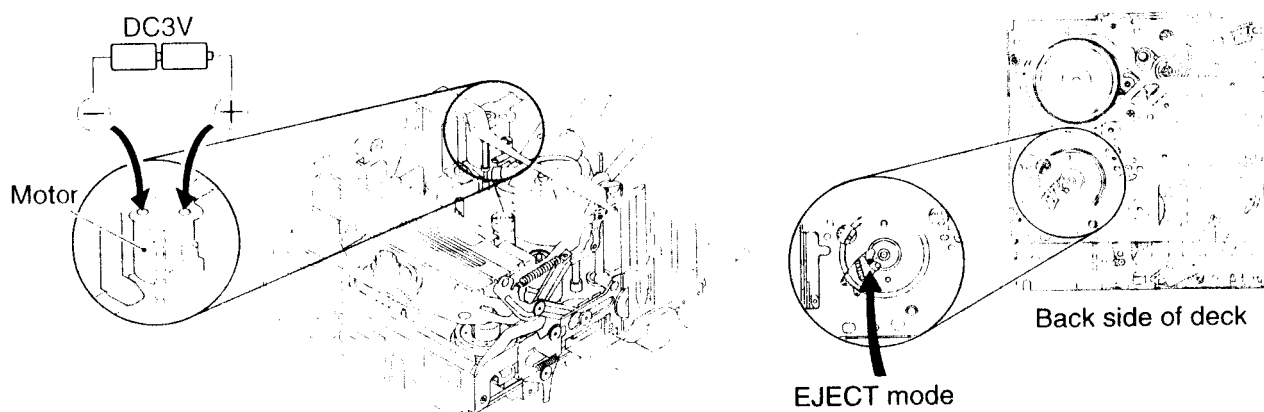


Fig. 2-2-1

2.2.2 Explanation of mechanism mode

The mechanism mode of this model is classified into six modes as shown in Table 2-2-1. Each mechanism mode can be distinguished from others by the relative position of "●" mark on the sub cam gear to the inner or outer protrusion on the main deck. Refer to Fig. 2-2-2 to 2-2-7 below.

The EJECT mode, C IN mode and SHORT FF mode should be recognized by the relative position of the "●" mark to the inner protrusion, while the STOP mode, REV mode and PLAY mode should be recognized by that to the outer protrusion.

<EJECT mode>

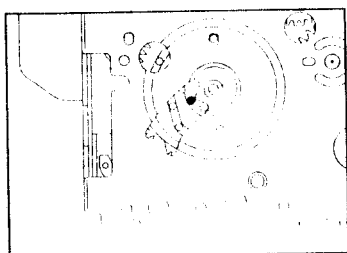


Fig. 2-2-2

<C IN mode>

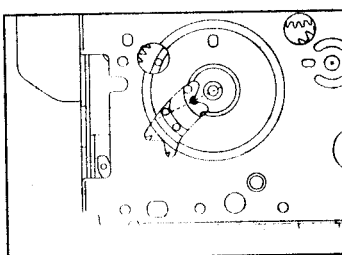


Fig. 2-2-3

<SHORT FF mode>

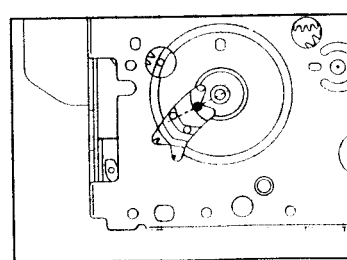


Fig. 2-2-4

<STOP mode>

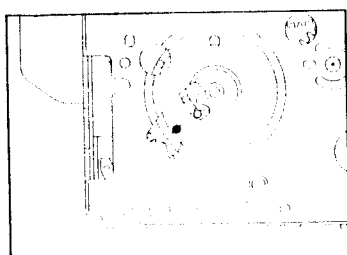


Fig. 2-2-5

<REV mode>

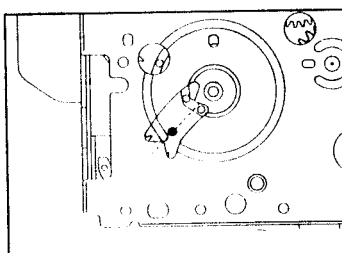


Fig. 2-2-6

<PLAY mode>

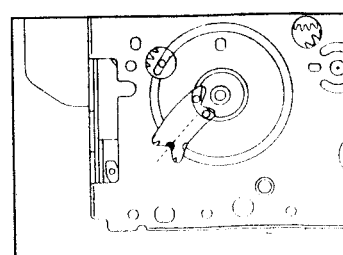


Fig. 2-2-7

2.2.3 Mechanism timing chart

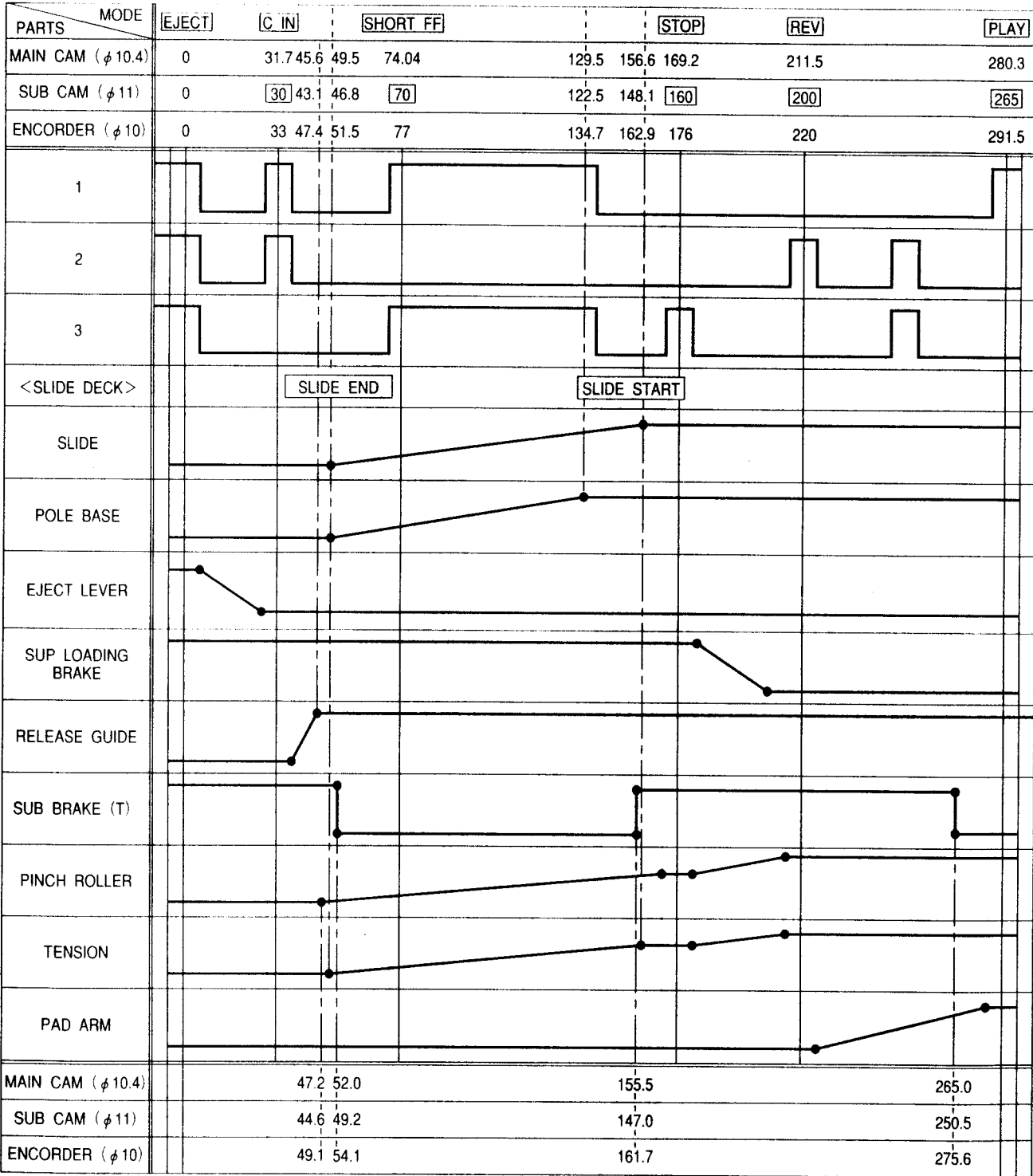


Table 2-2-1

2.2.4 Disassembling/reassembling mechanism assembly

1. Configuration

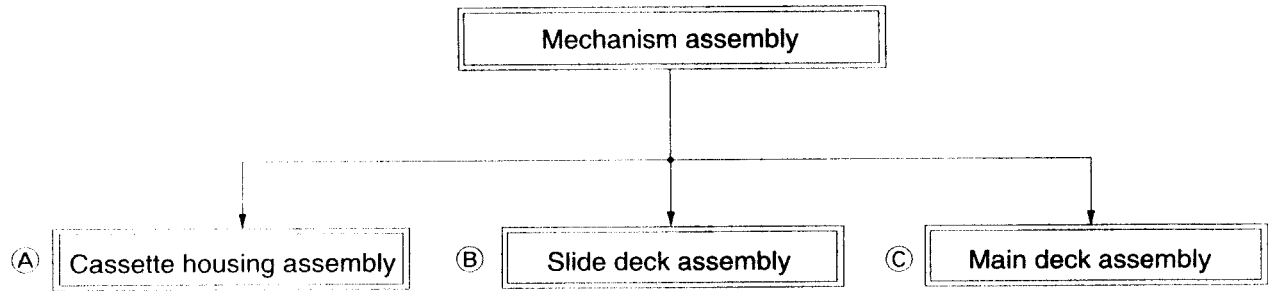


Fig.2-2-8

2. Procedures for disassembly

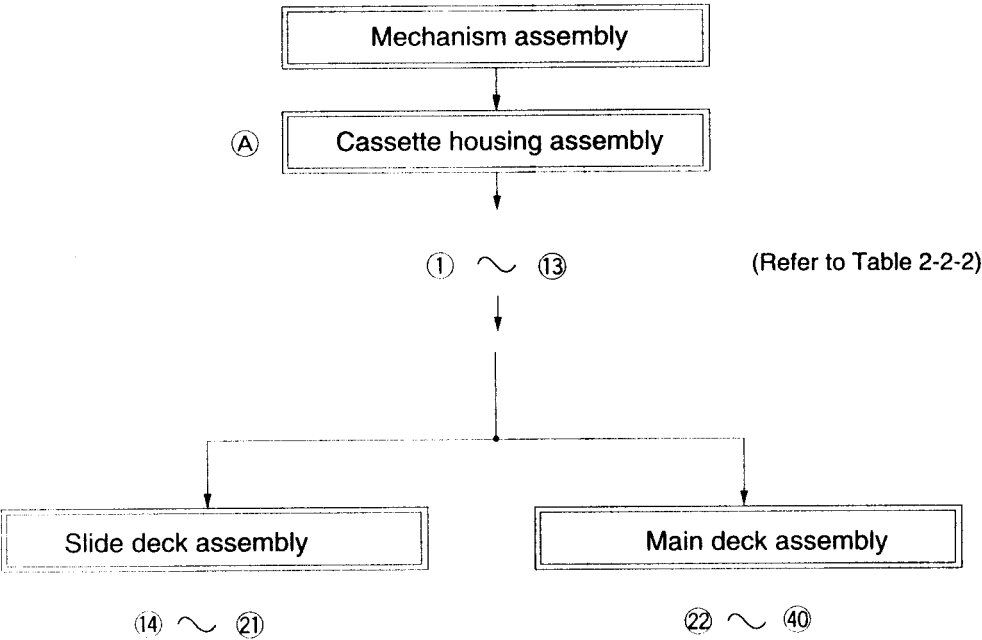


Fig. 2-2-9

3. Disassembling procedure table

Step	Part Name		Fig.	Point	Note	Remarks
(A)	Cassette housing assembly	T	M1	3(S1),(L1)-(L4)	1,28,29,30	Adjustment
(1)	Reel disk (SUP) assembly	T	M2	(W1)	2,3	
(2)	Reel disk (TU) assembly	T	M2	(W1)	2,3	
(3)	Reel cover assembly	T	M2	(S2),2(S1),(W1)	-	
(4)	Tension arm assembly	T	M3	(W1)	27	
(5)	Release guide assembly	T	M3	-	4	
(6)	Idler arm assembly	T	M3	(W2)	-	
(7)	Guide arm assembly	T	M3	-	4	
(8)	Pinch roller arm assembly	T	M3	(W1)	-	
(9)	Cleaner arm assembly	T	M4	(L5)	5	
(10)	Slant pole arm assembly	T	M4	(W1),(L6),(P1),(P2)	26	
(11)	Drum assembly	T	M4	3(S2)	6	
(12)	Guide roller (S) assembly	T	M5	(P3)	7,8	
(13)	Rail assembly	T	M5	3(W1)	9,25	
(B)	Slide deck assembly/ c Main deck assembly	T	M6	(W1),(L7)-(L10)	10,24	(Adjustment)
(B)	Slide deck assembly					
(14)	Loading brake assembly	T	M7	(W1),(L11),(P4)	23	Adjustment
(15)	Guide pin (SUPPLY)	T	M7	(S2)	-	
(16)	Pad arm assembly	T	M7	(W1),(L12),(P5)	22	
(17)	Slide guide plate assembly	T	M7	(S3)	21	Adjustment
(18)	Collar	T	M7	-	11	
(19)	Collar	T	M7	-	11	
(20)	Sub brake assembly	T	M7	(W1),(L13),(P6)	20	
(21)	Control plate assembly	T	M7	2(W1),(L14),(P7)	20	
(C)	Main deck assembly					
(22)	Tension lever assembly	T	M8	-	19	
(23)	Slide lever assembly	T	M8	-	18	
(24)	Brake control lever assembly	T	M8	-	17	
(25)	Loading guide	T	M9	(S2)	-	
(26)	Timing belt	T	M9	-	16	
(27)	Center gear assembly	T	M9	-	-	
(28)	Motor bracket assembly	T	M9	2(S2)	12	
(29)	Worm wheel	T	M9	(W1)	-	(Phase adjustment)
(30)	Gear holder	T	M9	(S2)	-	
(31)	Main cam gear	T	M10	(S2)	15	Phase adjustment
(32)	Brake control plate	T	M10	(L15)	15	Phase adjustment
(33)	Rotary encoder	T	M10	(S2),(W1)	13	Phase adjustment
(34)	Connect gear	T	M10	(W1)	-	(Phase adjustment)
(35)	Reel drive pulley assembly	T	M10	(W2)	-	
(36)	Catcher (T) assembly	T	M11	2(S2)	-	
(37)	Capstan motor	T	M11	2(S2)	-	
(38)	Charge arm assembly	T	M11	(W1)	14	
(39)	Sub cam gear	T	M11	(S2)	-	Phase adjustment
(40)	PWB holder	B	M11	2(S2)	-	

Table 2-2-2

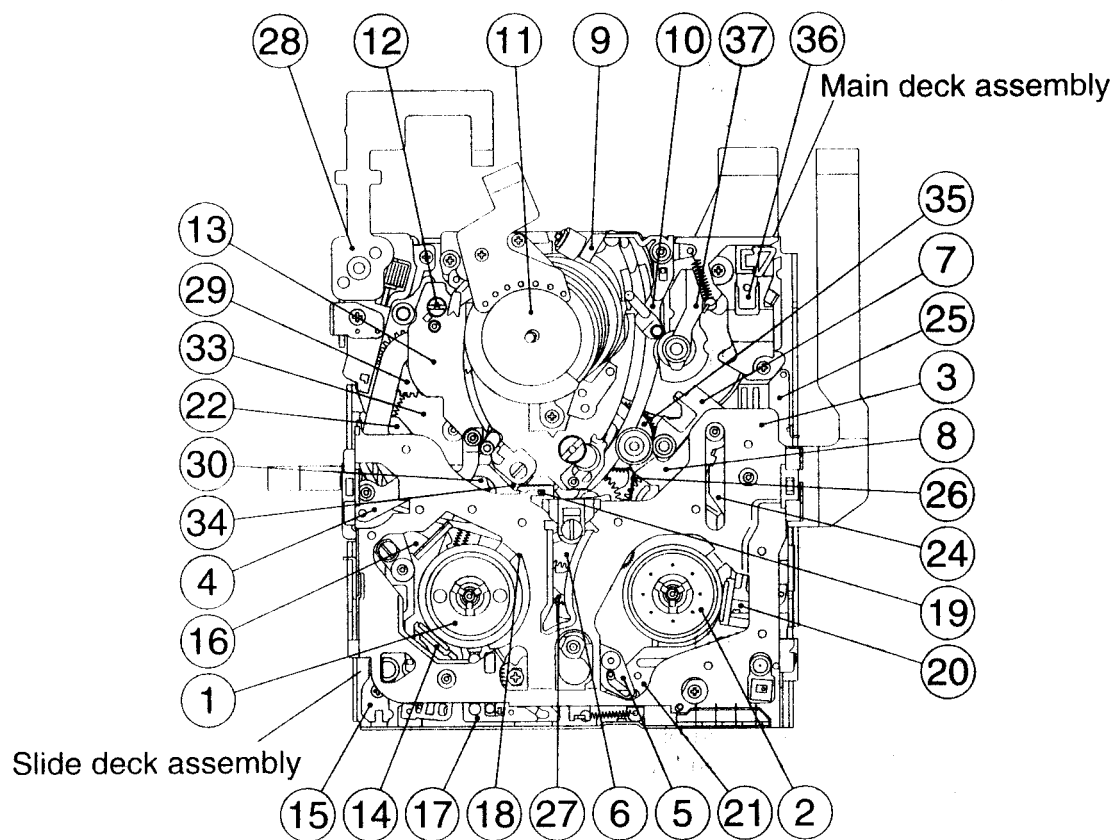


Fig. 2-2-10 Top view

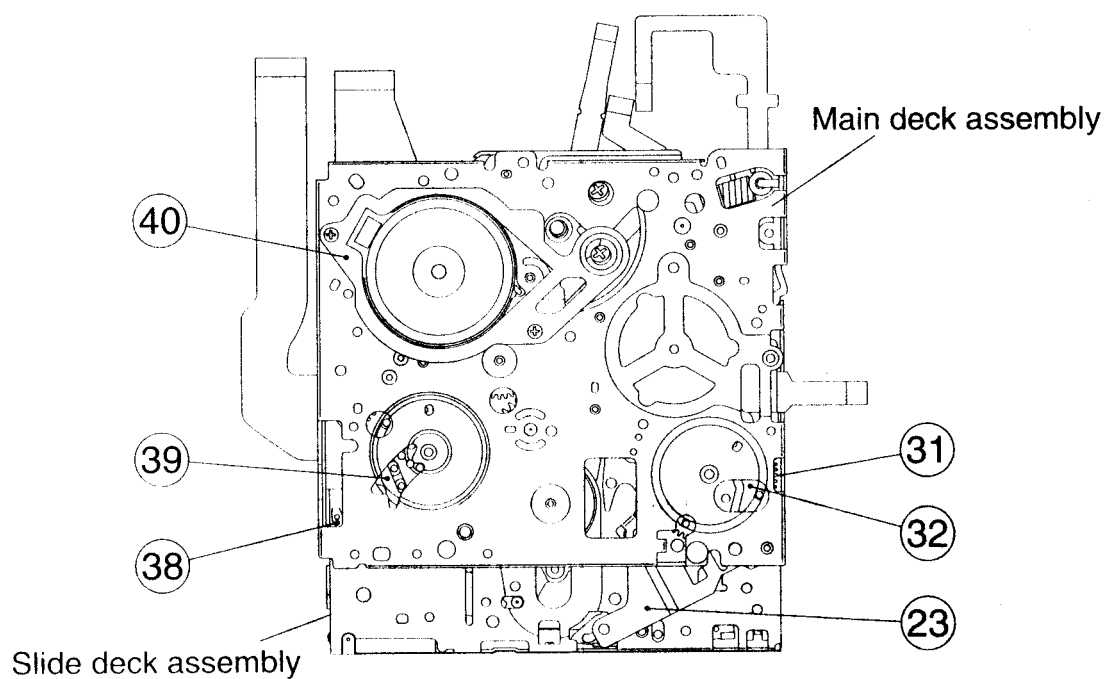


Fig. 2-2-11 Bottom view

2.2.5 Disassembling/reassembling

1. ① Cassette housing assembly

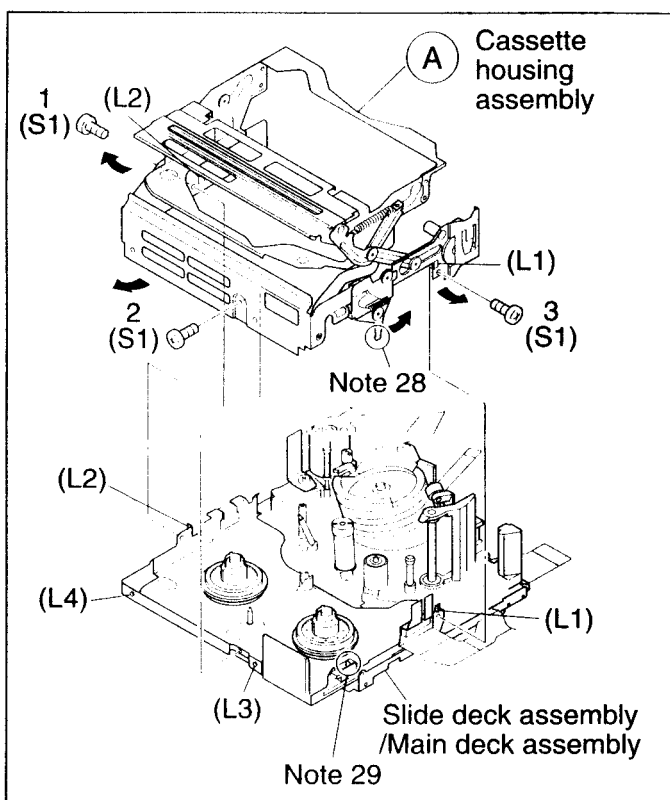


Fig. M1

2. ① Reel disk (SUP) assembly
② Reel disk (TU) assembly
③ Reel cover assembly

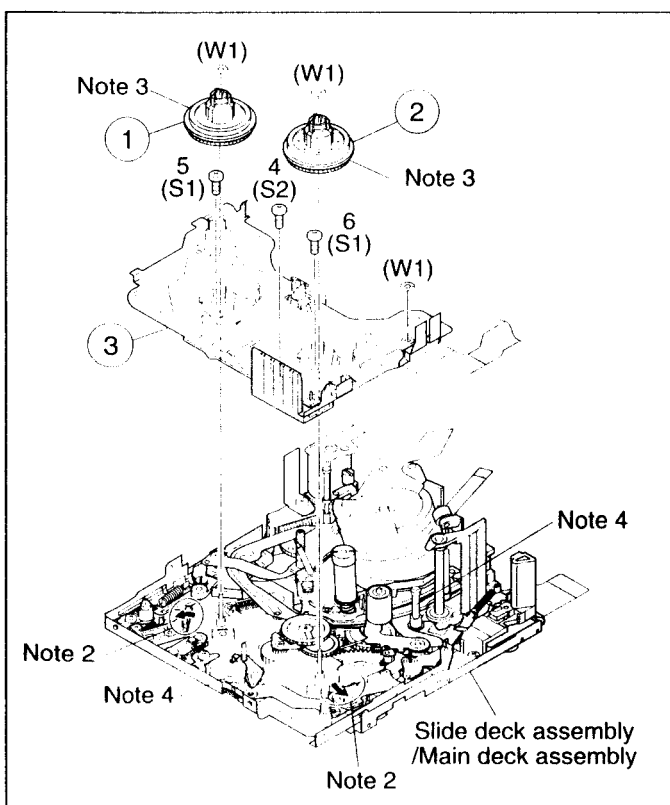
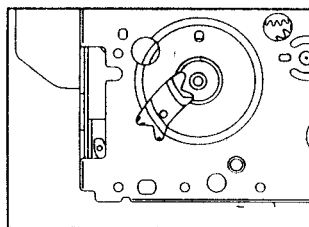
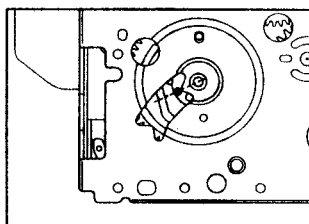


Fig. M2

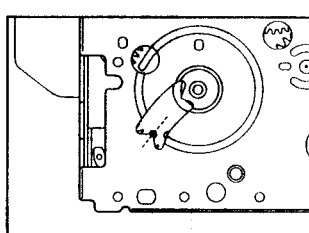
<STOP mode>



<EJECT mode>



<PLAY mode>



Note 1:

Shift the mechanism mode from the STOP mode to the EJECT mode.

Note 28:

Reassemble the cassette housing assembly to the mechanism as the cancel lever is moved in the direction of the arrow.

Note 29:

When reassembling the cassette housing to the mechanism, make sure that there is no deformation in the frame or no damage to the switches, etc.

Note 30:

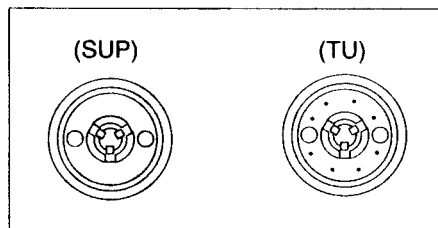
After reassembling the component parts, check the mechanism operation in the PLAY mode. For details of checking method, refer to "2.2.8 Reassembling slide deck assembly and main deck assembly".

Note 2:

When removing the reel disk assembly, be careful not to break the brake pad which applies lateral pressure to the reel disk.

Note 3:

Be careful not to make a mistake in installing the reel disk. The SUP reel disk and TU reel disk can be distinguished from each other by the appearance as shown below.



Note 4:

When removing the reel cover assembly, pay heed to the guide arm assembly. For, the guide arm assembly is just inserted into the slide deck assembly from the upside and it is apt to come off after the reel cover assembly is removed.

3. ④ Tension arm assembly/ ⑤ Release guide assembly
 ⑥ Idler arm assembly/ ⑦ Guide arm assembly
 ⑧ Pinch roller arm assembly

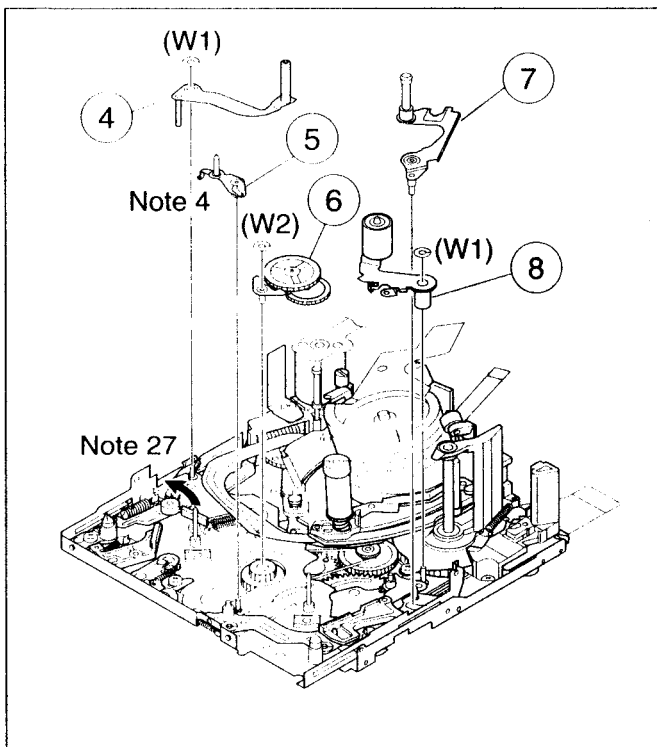


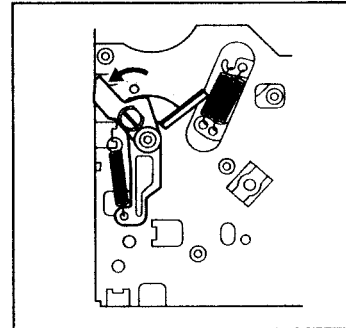
Fig. M3

Note 4:

When removing the reel cover assembly, pay heed to release guide assembly and guide arm assembly. For, the guide arm assembly is just inserted into the slide deck assembly from the upside and it is apt to come off after the reel cover assembly is removed.

Note 27:

Reassemble the tension arm assembly to the mechanism as the pad arm assembly is moved to the extent in the direction of the arrow.



4. ⑨ Cleaner arm assembly/⑩ Slant pole arm assembly
 ⑪ Drum assembly

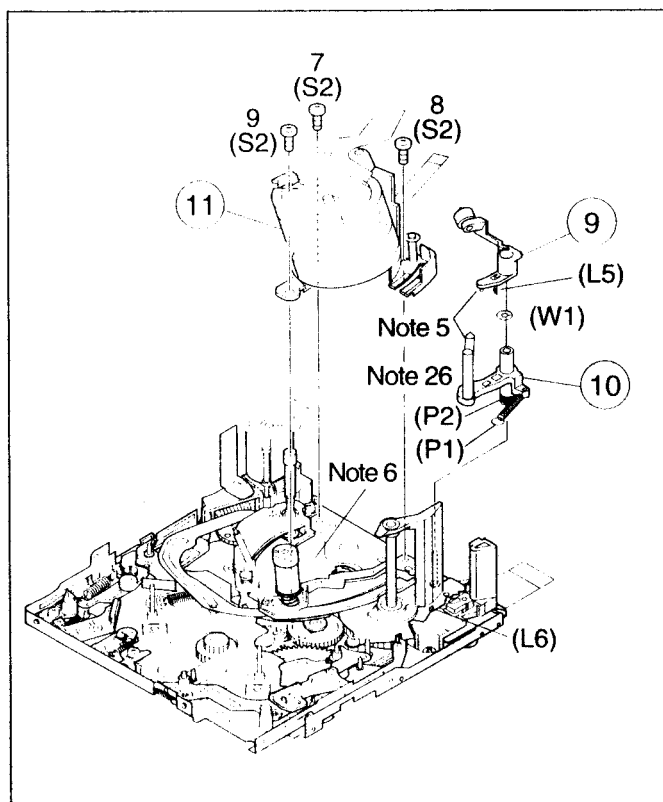


Fig. M4

Note 5:

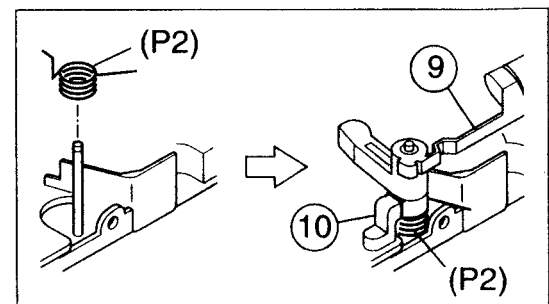
When removing the cleaner arm assembly, it is recommended to remove the slant pole arm assembly together with it except the case of a single unit replacement, because the hook (L5) is hard to disengage.

Note 6:

When the shield is applied, carefully remove the drum final assembly because the drum is stuck to the shield.

Note 26:

How to set the coil spring (P2).



5. (12) Guide roller (SUPPLY) assembly/ (13) Rail assembly

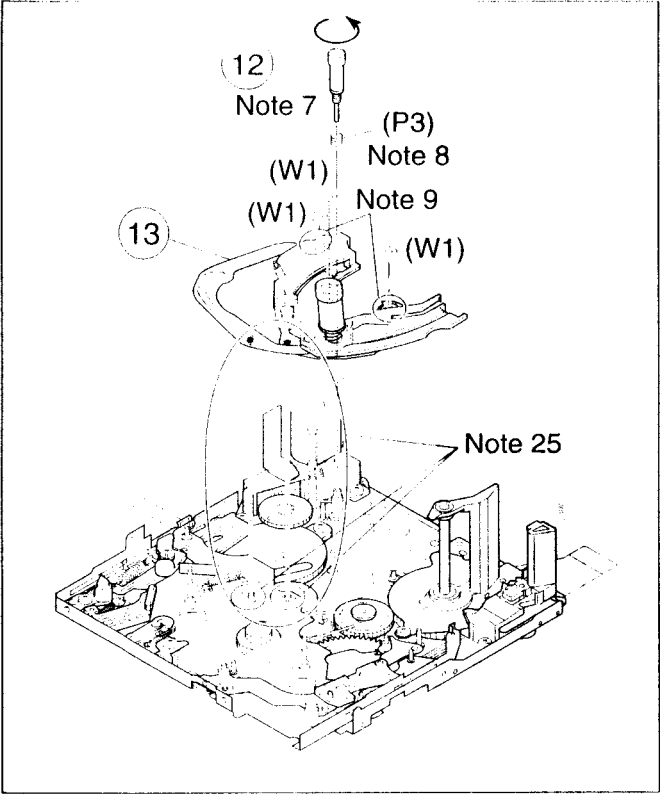


Fig. M5

Note 7:

When removing the rail assembly, remove the guide roller (SUPPLY) assembly beforehand.

Note 8:

Pay careful attention to the spring not to lose it.

Note 9:

Pay careful attention to the engagement of the rail assembly's arm ends because they easily come off the engagement. Moreover, make sure that there is neither deformation nor damage observed in them.

Note 25:

When removing the rail assembly, check to see if the collar is securely set in the arm groove.

6. B Slide deck assembly/ C Main deck assembly

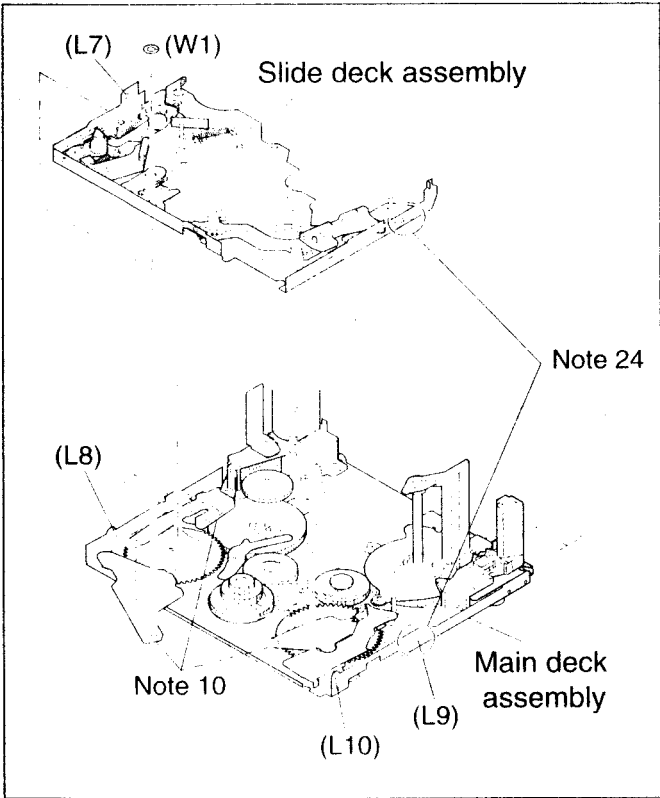


Fig. M6

Note 10:

When removing the slide deck assembly, pay heed to the three components of the following because they are apt to come off after the slide deck assembly is removed.

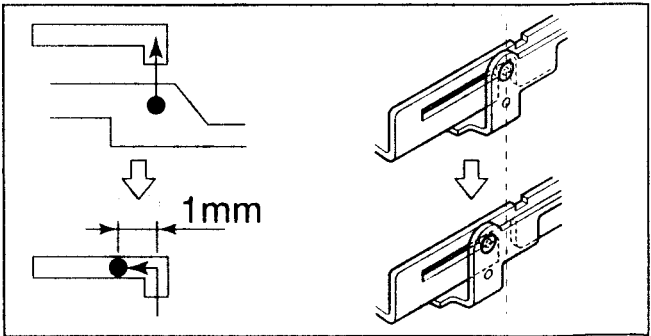
22 Tension lever assembly/23 Slide lever assembly

24 Brake control lever assembly

For reassembling those components, refer to Fig. M8 on page 2-10.

Note 24:

When reassembling the slide deck assembly to the main deck assembly, combine them with each other by the side grooves and then slide the slide deck assembly by 1 mm or so.



7. 14 Loading brake assembly/ 15 Guide pin (S)
 16 Pad arm assembly/ 17 Slide guide plate assembly
 18 Collar/ 19 Collar/ 20 Sub brake assembly
 21 Control plate assembly

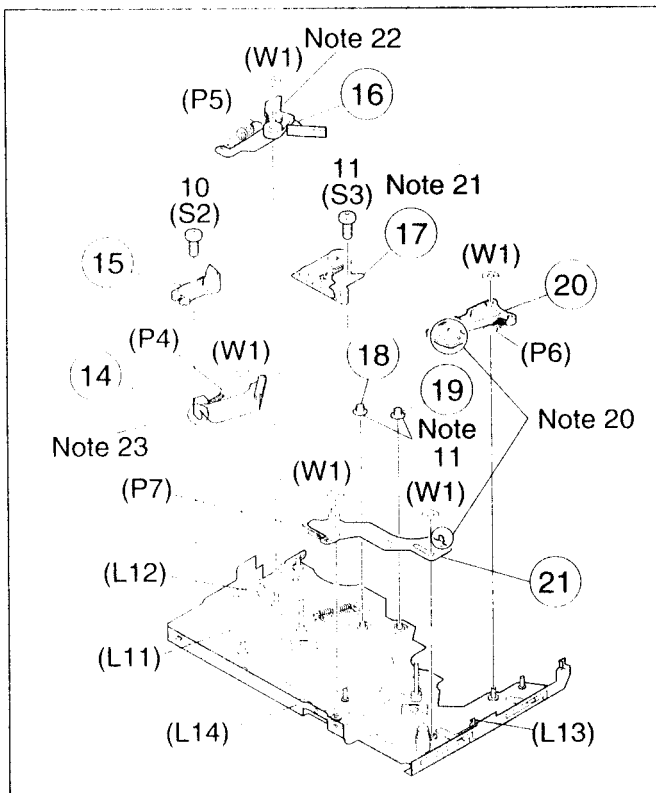


Fig. M7

8. 22 Tension lever assembly/ 23 Slide lever assembly
 24 Brake control lever assembly

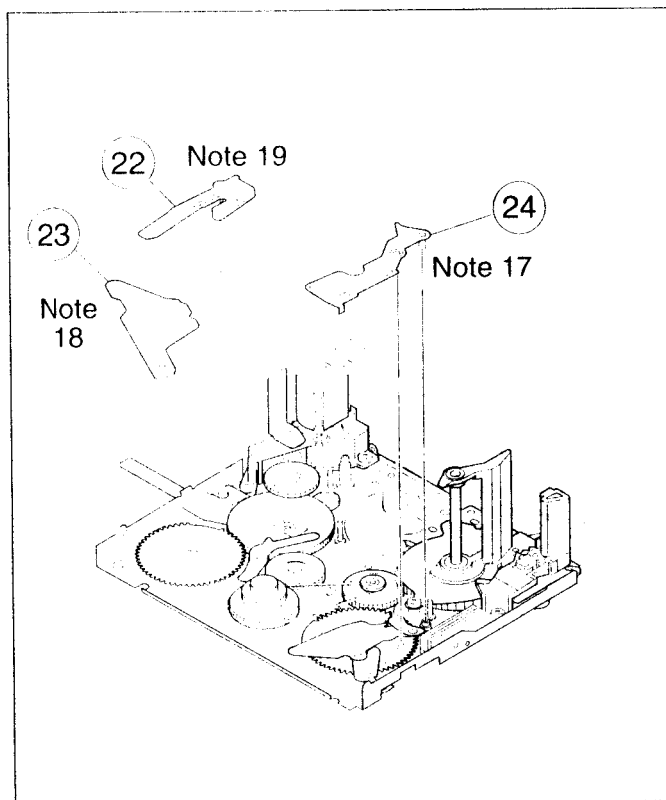


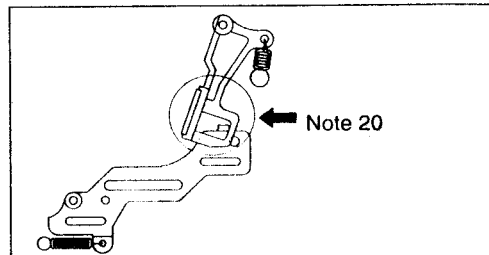
Fig. M8

Note 11:

Don't remove these parts unreasonably. If they are removed for some reason, be very careful not to lose them.

Note 20:

When reinstalling the sub brake assembly, set the control plate assembly so that its hook is set in the # part of the sub brake assembly.



Note 21:

Since the slide guide plate assembly controls the slide deck assembly so that it exactly slides the main deck assembly, it must exactly be assembled in the PLAY mode. Therefore, temporarily fix the slide guide plate assembly in this stage. For details of reassembling procedure, refer to "2.2.8 Reassembling slide deck assembly and main deck assembly" on page 2-15.

Note 22:

The pad arm assembly controls the tension level of the tension arm assembly. For adjustment of the tension arm assembly, refer to page 2-8.

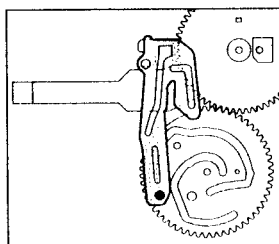
Note 23:

When reinstalling the load brake assembly, slightly lift the slide deck assembly upwards because the lower part of the load brake assembly sticks out of the slide deck assembly.

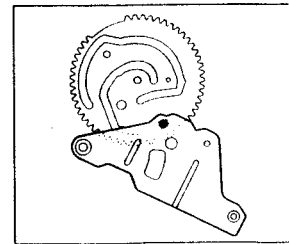
Note 17, 18, 19:

For refitting the respective parts, refer to the following figures.

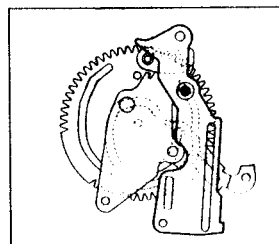
22 Tension lever assembly



23 Slide lever assembly



24 Brake control lever assembly



9. (25) Loading guide/ (26) Timing belt
 (27) Center gear assembly/ (28) Motor bracket assembly
 (29) Worm wheel/ (30) Gear holder

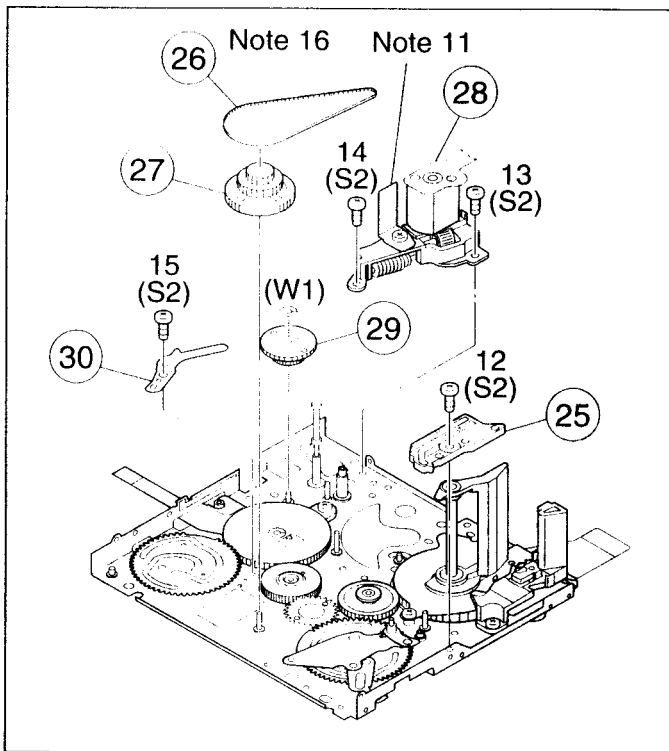


Fig. M9

10. (31) Main cam gear/ (32) Brake control plate
 (33) Rotary encoder/ (34) Connect gear
 (35) Reel drive pulley assembly

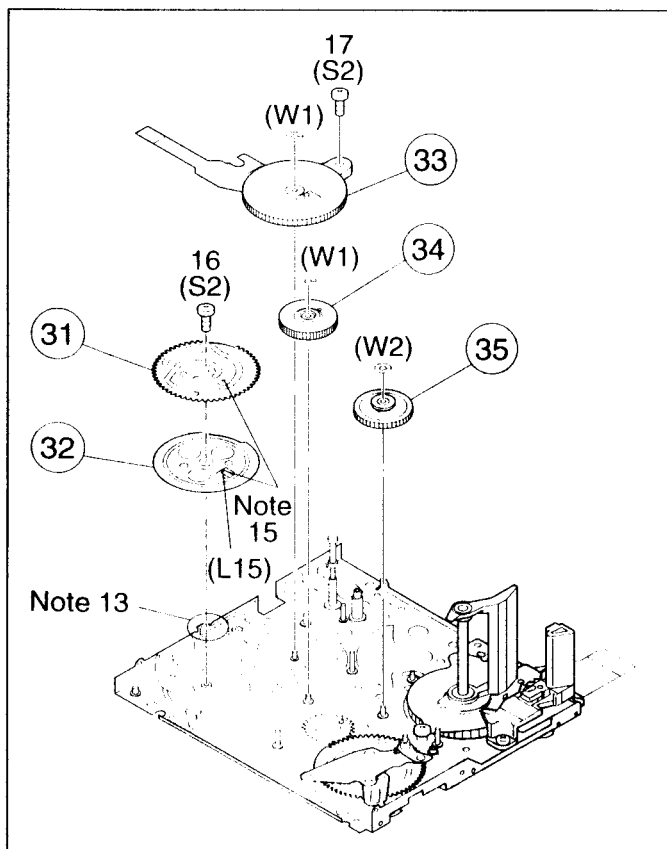


Fig. M10

Note 12:

Carefully handle the DEW sensor. (Don't touch the sensor surface in particular.)

Note 16:

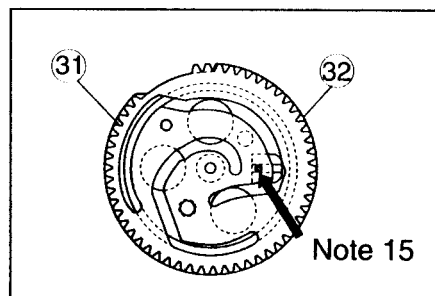
When engaging the timing belt, make sure that it securely engages with the gears of both the center gear assembly and reel drive pulley assembly.

Note 13:

When removing/refitting parts, pay careful attention to the flexible board and so on not to damage them.

Note 15:

When reinstalling the main cam gear and the brake control plate, first fit them together so that the protrusion on the brake control plate is set in the slot on the main cam gear as shown below, next install the two together to the main deck assembly.



11. (36) Catcher (T) assembly/ (37) Capstan motor
 (38) Charge arm assembly/ (39) Sub cam gear
 (40) PWB holder

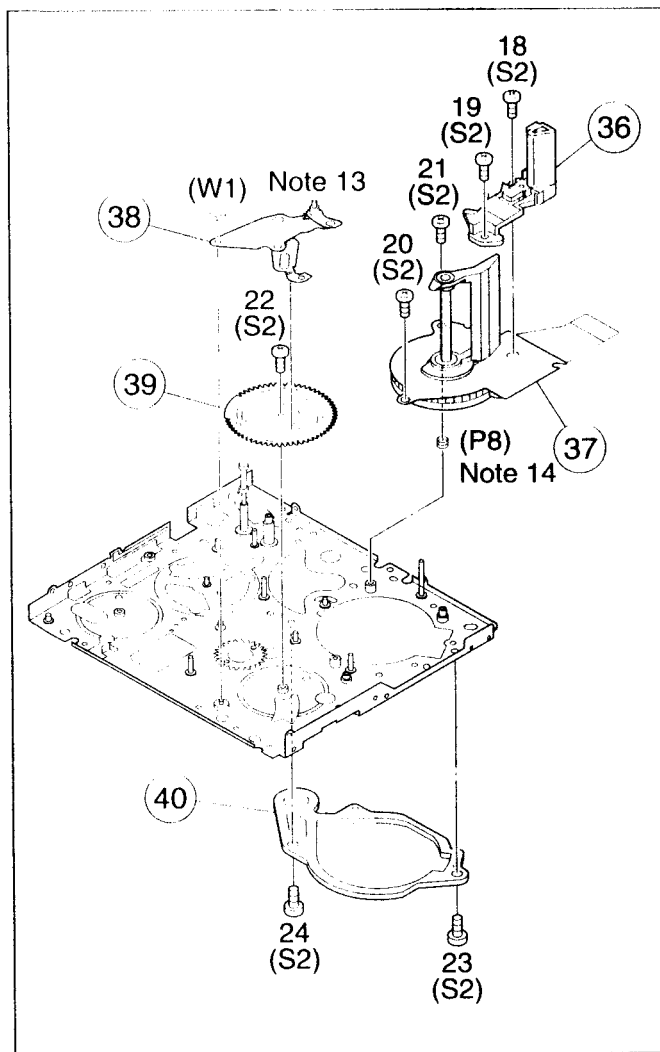
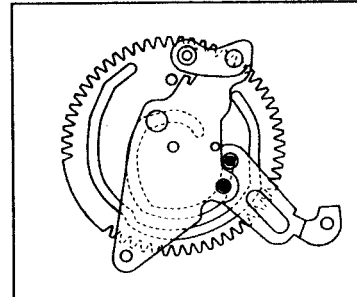


Fig. M11

Note 14:

The following figure shows how to put the charge arm assembly and sub cam gear assembly together.



2.2.6 List of procedures for disassembly

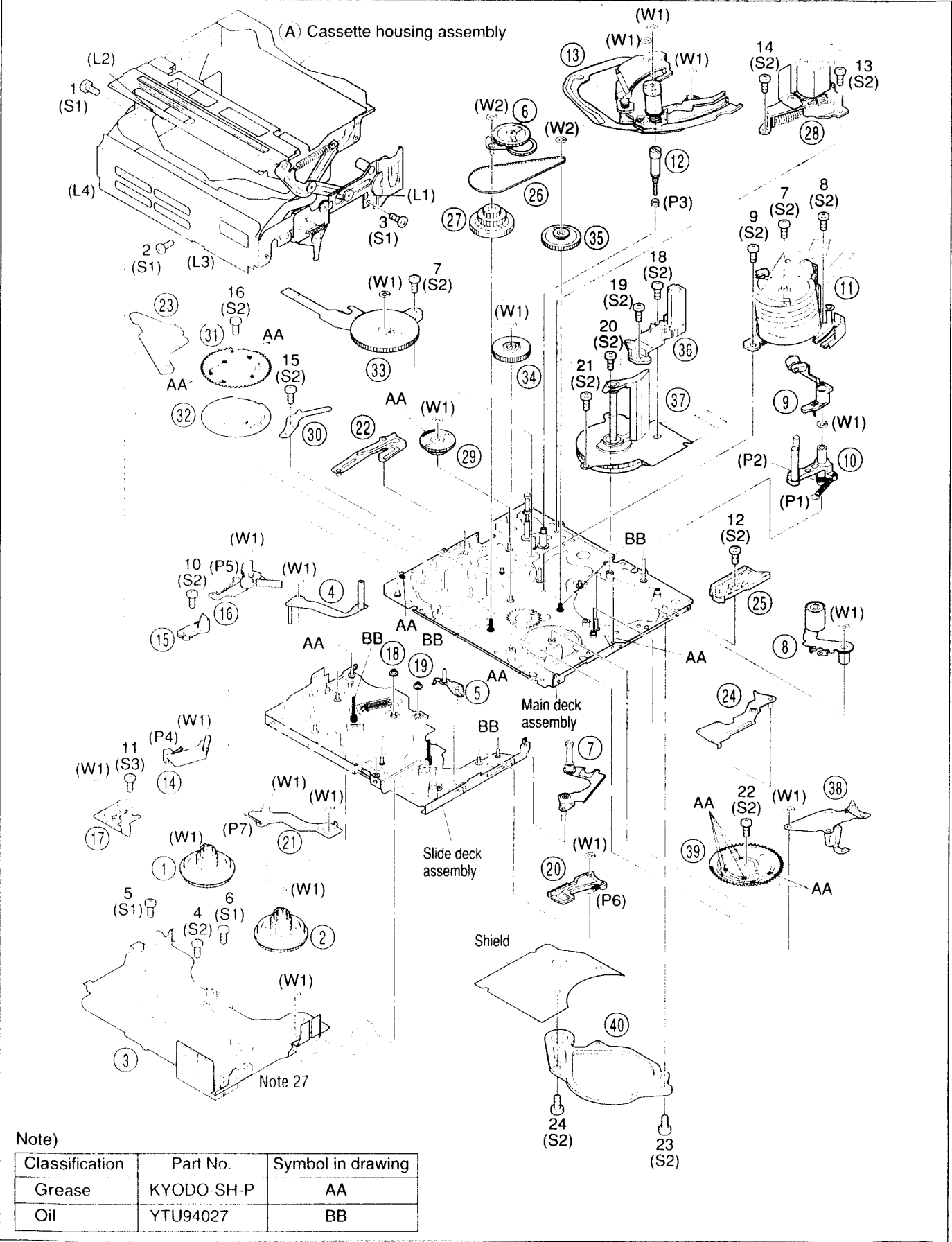
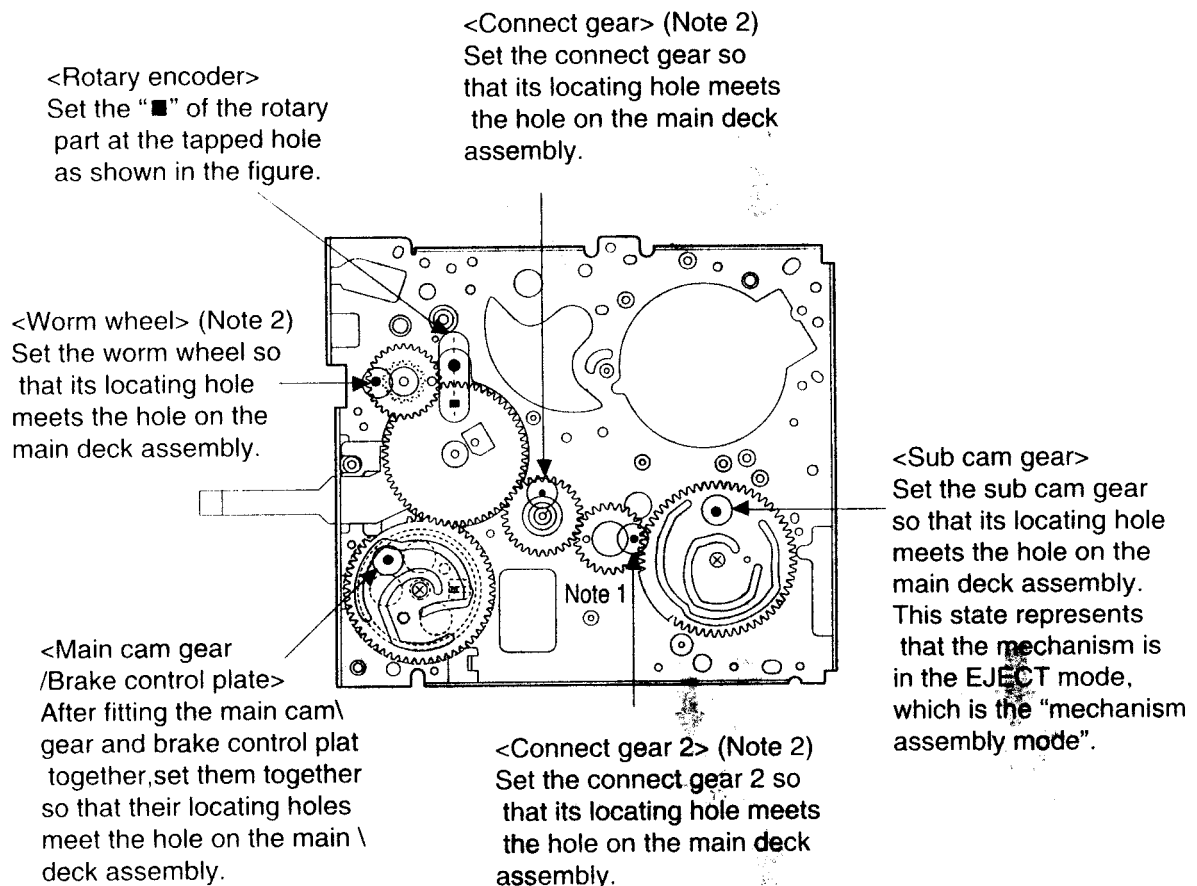


Fig. 2-2-12

2.2.7 Checkup and adjustment of mechanism phase



Note 1:

Since the connect gear 2 is tightly fixed to the main deck by caulking, adjust its phase with the connect gear and sub cam gear.

Note 2:

The part that needs phase adjustment by the hole on the main deck assembly must exactly be set as the specified phase. There is a fear that some part is installed in a wrong phase because assembling of the mechanism is automated. If so, set every part in the correct phase whenever the mechanism is reassembled.

Fig. 2-2-13

2.2.8 Reassembling slide deck assembly and main deck assembly

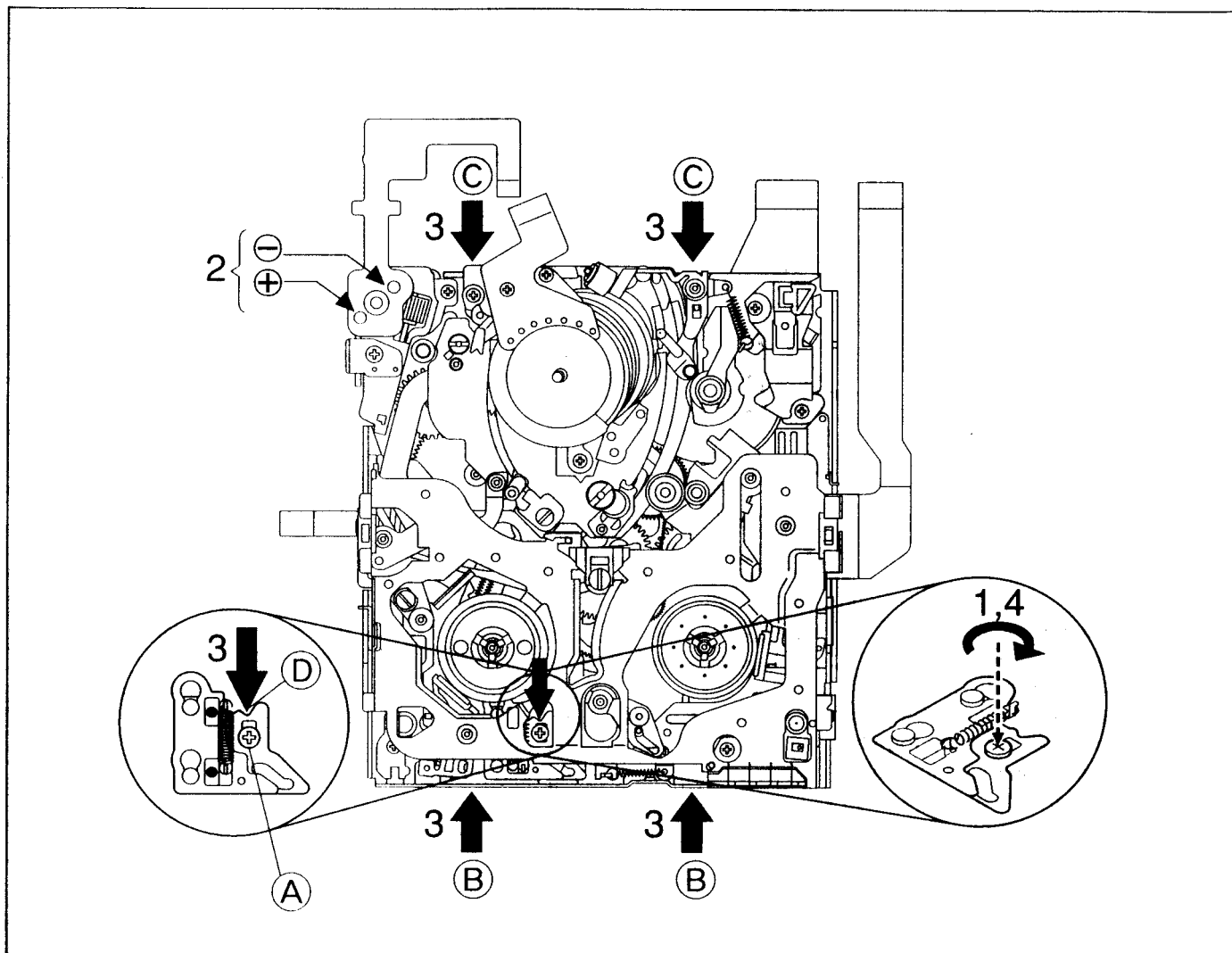


Fig. 2-2-14

Reassembling procedure

1. Loosen the screw (A).
2. Set the mechanism in the play mode. (Refer to page 2-2.)
3. Press the end face (B) of the slide deck assembly (reel disk side) and the end face (C) of the main deck assembly (drum assembly side) with uniform force so that the two assemblies are tightly pressed to each other. Furthermore, press the part (D) and tighten the screw (A).

Note: Tightening torque for screw (A): 0.03 N·m (0.3 kgf·cm)

2.2.9 Locating tension pole

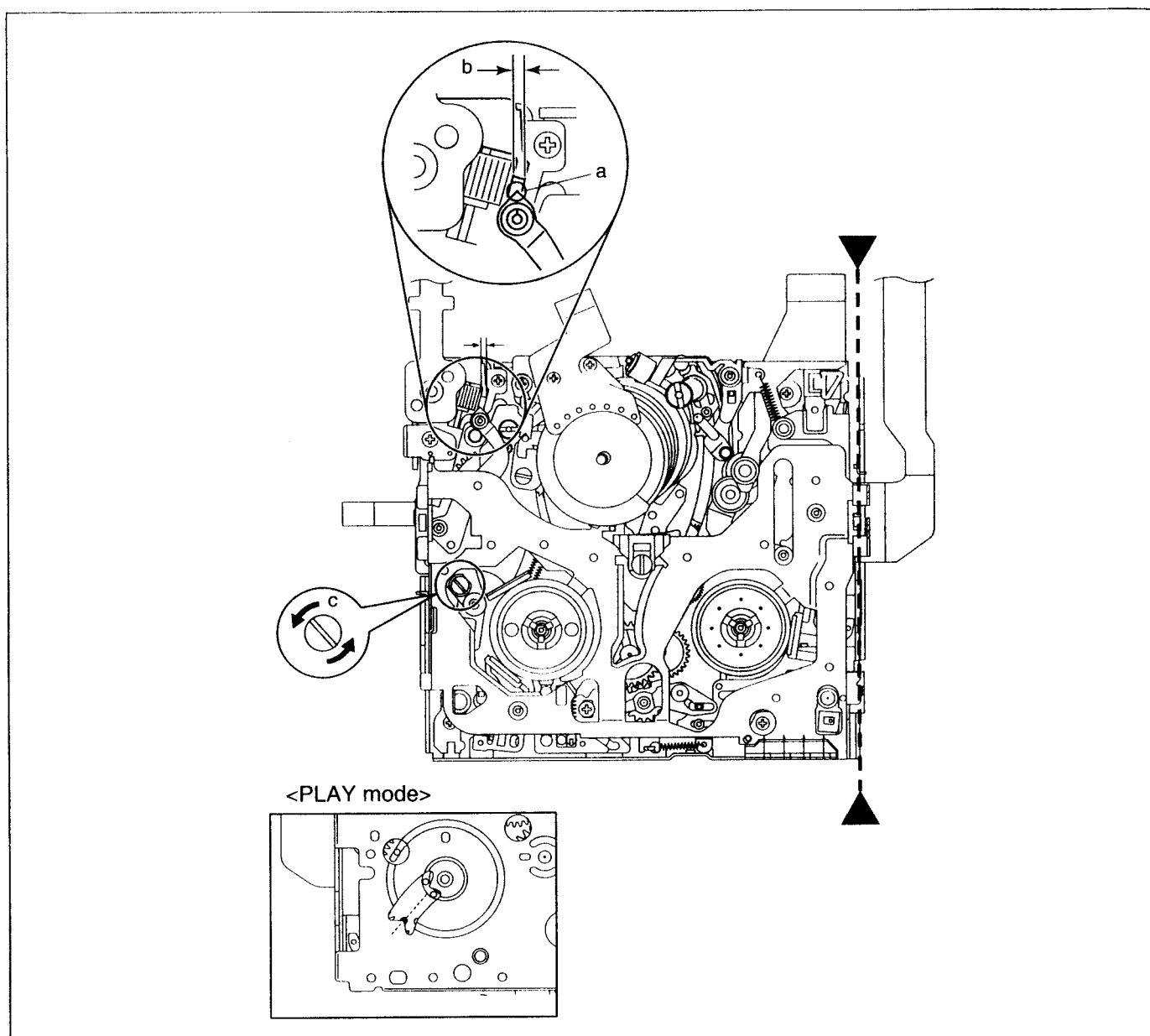


Fig. 2-2-15

Locating procedure

1. Enter the mechanism assembly into the PLAY mode. (Refer to page 2-2.)
2. When the "▶-----◀" part is positioned down, make sure that the part "a" of the tension arm assembly is located within the range of "b".
3. If the part "a" is out of the range, turn the pin "c" to adjust the position.

2.3 PROCEDURE OF COMPATIBILITY AND P.B. EQ. (ERROR RATE) ADJUSTMENTS

2.3.1 Precautions

Prior to starting disassembling and adjusting work, be sure to make a backup copy of the data stored in the EEPROM (IC1003 on the MAIN2 board) for the "EEPROM utility" of the SSS software.

Table 2-3-1 shows important service points for adjustment of P.B. EQ. (error rate).

Adjustment item Service point	Linearity adjustment	P.B. Switching Point adjustment	Head Recording Current adjustment	Error rate (P.B. EQ.) adjustment (SP/LP)
Replacement of DRUM	Necessary Note 1	Necessary	Necessary	Necessary
Replacement of parts of tape transport system	Necessary Note 1	Unnecessary	Unnecessary	Check
Repair of parts of tape transport system (DRUM)	Necessary Note 1	Unnecessary	Unnecessary	Check
Replacement of IC3502 (MAIN1 board, PRE/REC amp)	Unnecessary	Unnecessary	Unnecessary	Necessary
Replacement of IC3501 (MAIN1 board, EQ.)	Unnecessary	Unnecessary	Unnecessary	Necessary
Replacement of MAIN2 BOARD Note 2	Unnecessary	Necessary	Necessary	Necessary

Table 2-3-1

Note 1: Linearity adjustment is needed only after replacement of the drum or replacement/repair of the TU/SUP guide rail.

Note 2: After replacement of the MAIN2 board, be sure to write the original data on the EEPROM of the new MAIN2 board. After data writing, adjust the camera section. When the MAIN2 board is replaced for the reason of communication failure, install the original EEPROM on the new MAIN2 board.

If adjustment is needed for two or more items, proceed in adjustment of respective items in the following order.

2.3.3 Linearity adjustment

2.3.4 PB switching point adjustment

2.3.5 Head REC current adjustment

2.3.6 P.B. EQ. (error rate) adjustment (both in SP and LP)

2.3.2 Preparation for adjustment

For actual adjustment, the set must be prepared as mentioned below. Refer to Fig. 2-3-1, too.

1. Remove one screw (1) and cover (for jig).
2. Connect the jig connector cable to CN108 on the MAIN1 board.
3. Connect the power supply jig to CN303 on the REG board.
4. Play back the alignment tape. Remove the cover(s) (for cassette/lower) and turn the guide roller when adjustment is needed.

Be careful not to damage the exterior at that time.

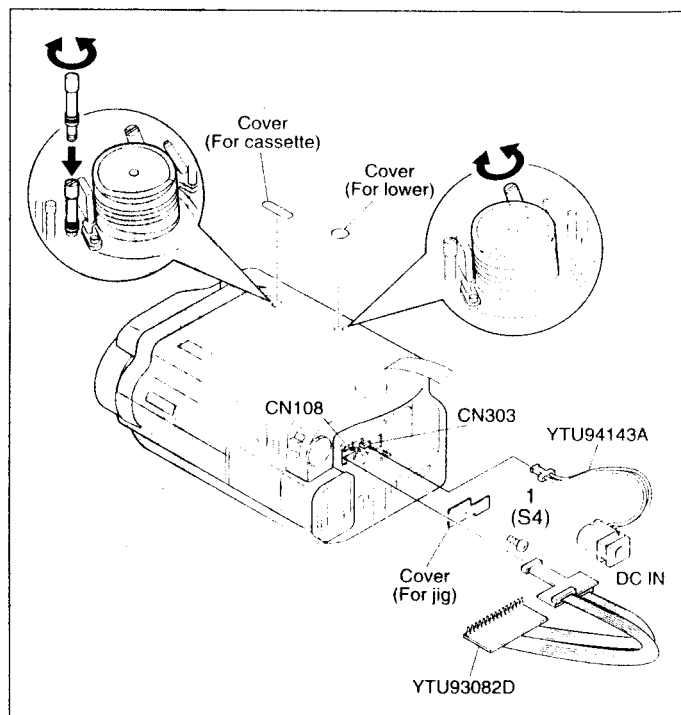


Fig. 2-3-1

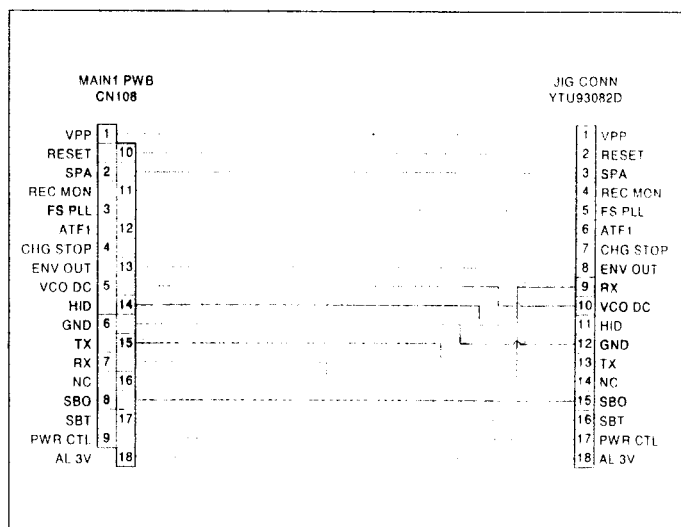


Fig. 2-3-2 Patch cord schematic diagram

2.3.3 Linearity adjustment

Procedure of linearity adjustment is shown by the following flowchart.

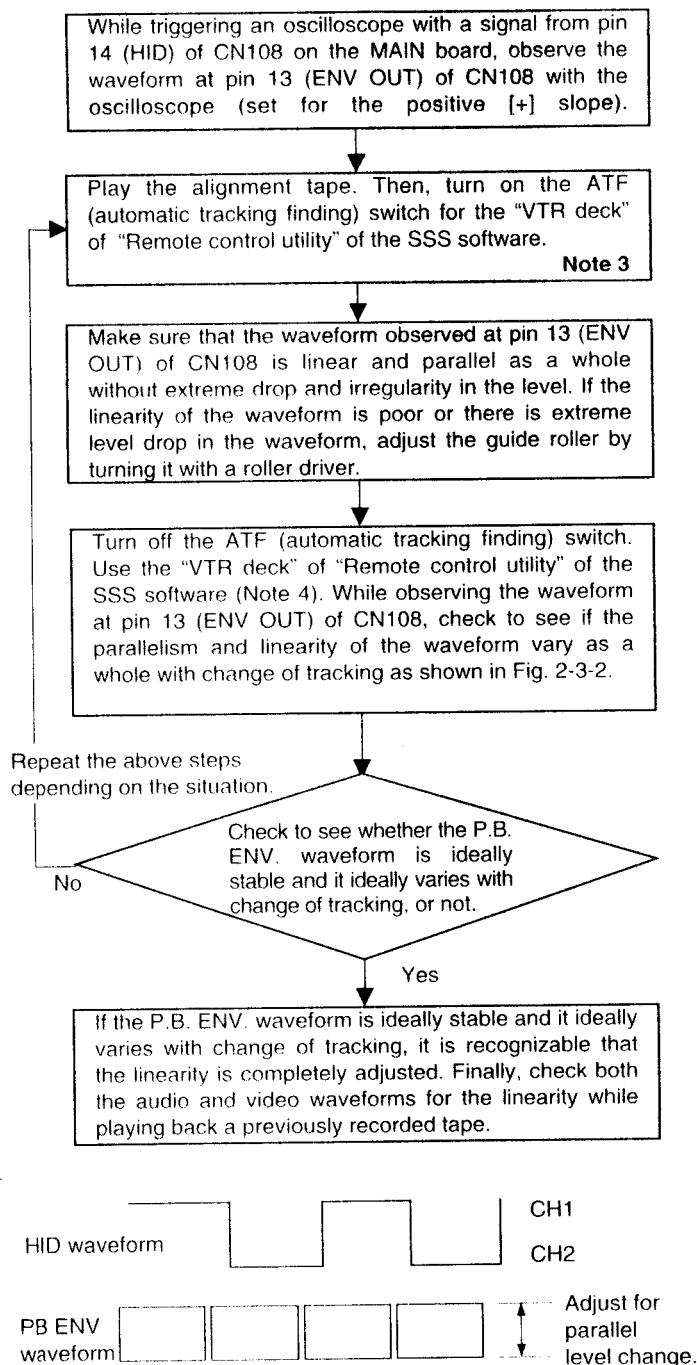


Fig. 2-3-3 P.B. ENV. Waveform

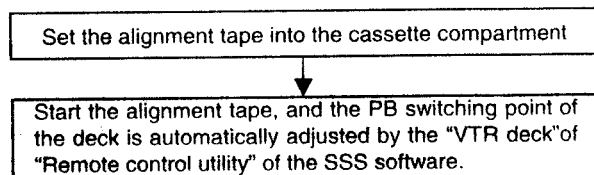
Note 3: In case of the VHS tape recorder, the first tracking point can be locked by means of CTL pulse and DRUM FF when the automatic tracking (AT) function is off, because the VHS tape recorder has an A/C head. Therefore, the linearity of the VHS tape recorder is adjustable even when the AT is off.
On the other hand, the linearity of the DVC cannot be adjusted when the automatic tracking finding (ATF) function is inactivated, because the DVC has no A/C

head. When the ATF of the DVC is off, its tracking operation is effectuated only for the speed control system. Therefore, as time elapses, the DVC gradually fails in the servo control and it becomes hard to adjust the linearity.

Note 4: In practice, if linearity adjustment is performed within a few minutes after the ATF is switched off, the state (ATF off) may be left out of consideration, because the speed servo of the DVC functions when the ATF is off.

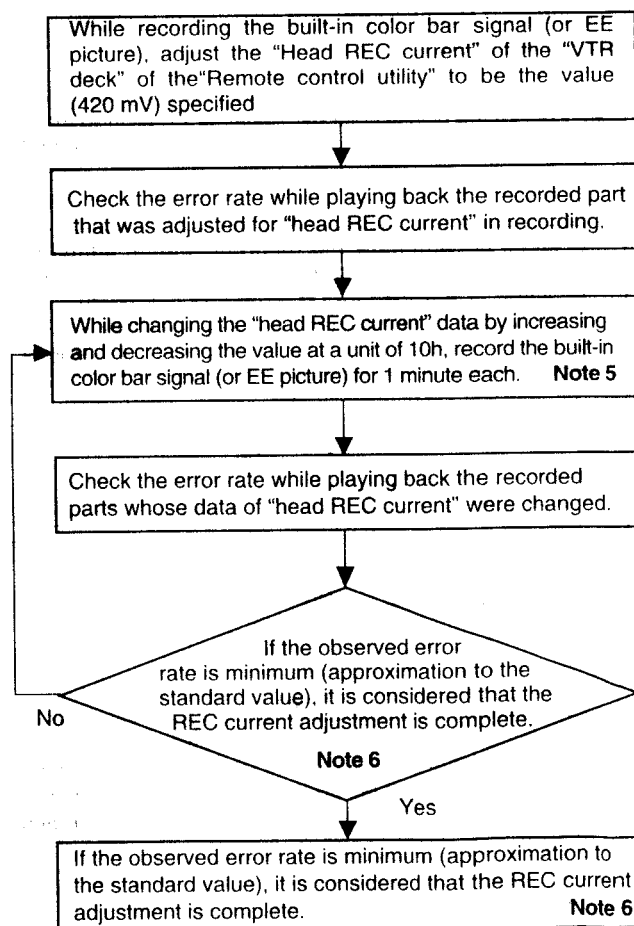
2.3.4 PB switching point adjustment

Procedure of PB switching point adjustment is shown by the following flowchart.



2.3.5 Head REC current adjustment

Procedure of head REC current adjustment is shown by the following flowchart.



If the minimum error rate does not approximate to the standard value (see Note 7) in spite of repeated adjustments, clean the head and tape transport system. If cleaning has no effect on improvement of the error rate, it is thinkable that there is a failure in the head or the preamp shield, or the P.B. EQ. (error rate) is incompletely adjusted. In such the case, try to proceed in P.B. EQ. adjustment with the alignment tape prior to adjustment of "head REC current". In other words, if there is something abnormal in the playback system, the indication of the error rate is meaningless. Therefore, it is recommended to perform the "P.B. EQ. (error rate) adjustment" roughly with the alignment tape after completion of the "linearity adjustment" (to adjust error rate to be almost approximate to the standard value), because it facilitates the adjustment of the "head REC current".

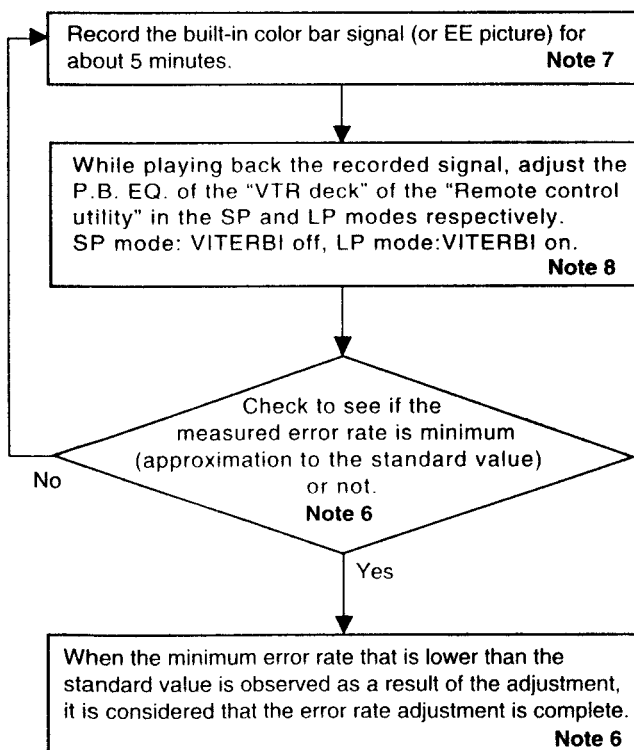
Note 5: The value of the "head REC current" specified on the software is not always optimum.

Note 6: In the strict sense of the word, "approximation to the standard value" means a value that is slightly lower than the specified value. Specified values are as follows.

CH1 or CH2: Less than 1,500 (less than 3,000 in total of CH1 and CH2) with the VITERBI function off.
Difference between channels: Less than 10 times between CH1 and CH2.

2.3.6 P.B. EQ. (error rate) adjustment (for SP and LP)

Procedure of P.B. EQ. (error rate) adjustment is shown by the following flowchart.



Note 7: It is advised to use a new cassette tape or an unrecorded part of a used cassette tape for recording. If a damaged tape is used for recording, it results not only in an error of the error rate measurement (measurement result becomes considerably higher than the real value) but also in loss of the reliability of adjustment.

Note 8: Switch off the VITERBI function in the playback mode, because it can be switched off in the playback mode only. If the VITERBI function is switched off in the playback mode, the switched-off status is automatically cancelled when playback is discontinued. Therefore, it is required to switch off the VITERBI function in every playback operation.

2.3.7 Measurement method of P.B. EQ. (error rate)

Neither error rate jig (YTU93083) nor frequency counter is needed. Error rate is shown on the service support in three ways of video CH1, CH2 and total. When measuring error rate by channel, total the video and audio error rates on the same channel.

2.4 SERVICE NOTE

Use the following chart to manage mechanism parts that are removed for disassembling the mechanism.

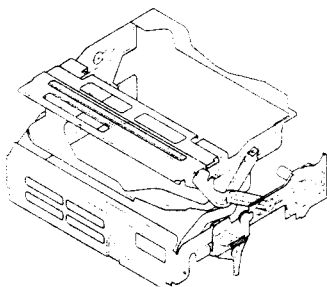
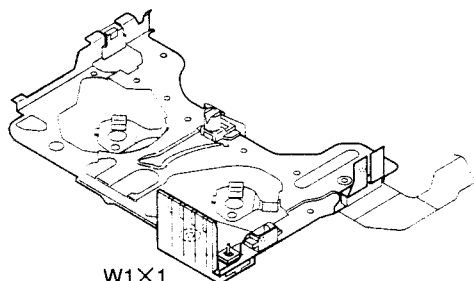
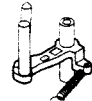
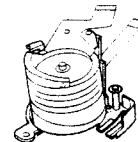
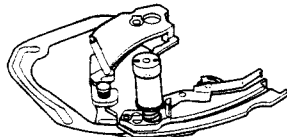
1	A Cassette housing assembly  S1X3				
2	① Reel disk (SUP) assembly  W1X1		③ Reel cover assembly  S1X2 S2X1 W1X1		
	② Reel disk (TU) assembly  W1X1				
3	④ Tension arm assembly  W1X1	⑤ Release guide assembly  W2X1	⑥ Idler arm assembly  W2X1	⑦ Guide arm assembly  W1X1	⑧ Pinch roller arm assembly  W1X1
	⑨ Cleaner arm assembly  W1X1		⑩ Slant pole arm assembly  W1X1 P1X1 P2X1		⑪ Drum assembly  S2X3
5	⑫ Guide roller (S) assembly  P3X1		⑬ Rail assembly  W1X3		

Table 2-4-1

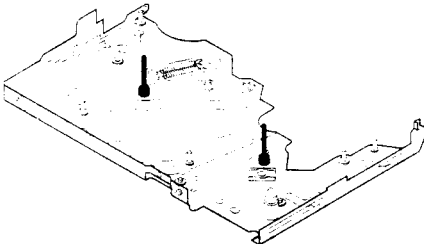
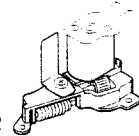
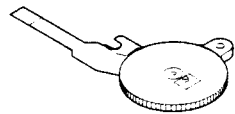
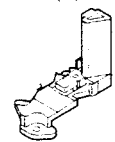
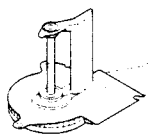
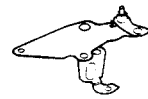
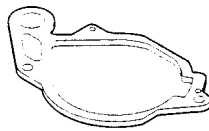
6	B Slide deck assembly  W1X1		7	④ Loading brake assembly  W1X1 P4X1 ⑦ Collar 		⑤ Guide pin (SUPPLY)  S2X1 ⑧ Collar 		⑥ Pad arm assembly  W1X1 P5X1 ⑫ Sub brake assembly  W1X1 P6X1		⑪ Slide guide plate assembly  S3X1 ⑬ Control plate assembly  W1X2 P7X1	
8	⑫ Tension lever assembly 		⑭ Slide lever assembly 				⑮ Brake control lever assembly 				
9	⑯ Loading guide  S2X1	⑰ Timing belt 	⑱ Center gear assembly 		⑲ Motor bracket assembly  S2X2		⑳ Worm wheel  W1X1		㉑ Gear holder  S2X1		
10	㉒ Main cam gear  S2X1	㉓ Brake control plate 		㉔ Rotary encoder  S2X1 W1X1			㉕ Connect gear  W1X1		㉖ Reel drive pulley assembly  W2X1		
11	㉗ Catcher (T) assembly  S2X2		㉘ Capstan motor  S2X2		㉙ Charge arm assembly  W1X1		㉚ Sub cam gear  S2X1		㉛ PWB holder  S2X2		

Table 2-4-2

SECTION 3 ELECTRICAL ADJUSTMENT

3.1 PREPARATION BEFORE ADJUSTMENT

3.1.1 Precautions

Both the deck and camera sections of this model are designed to be adjustment-free. However, if the following part is replaced, the set must be brought into a JVC service center having a complete set of service equipment, because it needs special adjustment with a personal computer in such a case.

- OP block
- EEPROM (IC1003 on MAIN2 board)
- MONITOR
- EEPROM (IC7302 on MONITOR board)

When there is some trouble with the electric circuit, it is required to detect the part of the failure with specified test instruments first and then to proceed to adjustment, repair or replacement. Matters that require attention:

- (1) When checking at a chip test point, be sure to use an IC clip or the like not to apply it any stress.
When replacing a chip part (IC in particular), completely remove solder from it and its periphery before replacement (to avoid exfoliation of the pattern).
- (2) Carefully connect/disconnect a connector because it is apt to get damaged.

3.1.2 Required test equipment

- (1) Personal computer (operated on Windows OS)
- (2) Color video monitor
- (3) Oscilloscope (dual-trace type, observable 100 MHz or higher frequency)
* It is recommended to use one observable 300 MHz or higher frequency.
- (4) Digital voltmeter
- (5) DC power supply
- (6) Frequency counter (with threshold level adjustment)

3.1.3 Jigs necessary for electrical adjustment

For jigs necessary for electrical adjustment, refer to pages 1-2 and 1-3 of the Section 1.

3.1.4 Setup

Note: For adjustment with a personal computer, basically use the JLIP terminal of the set for connecting the personal computer.

1. For connecting personal computer directly to the set.
(For checking the set status before disassembling.)

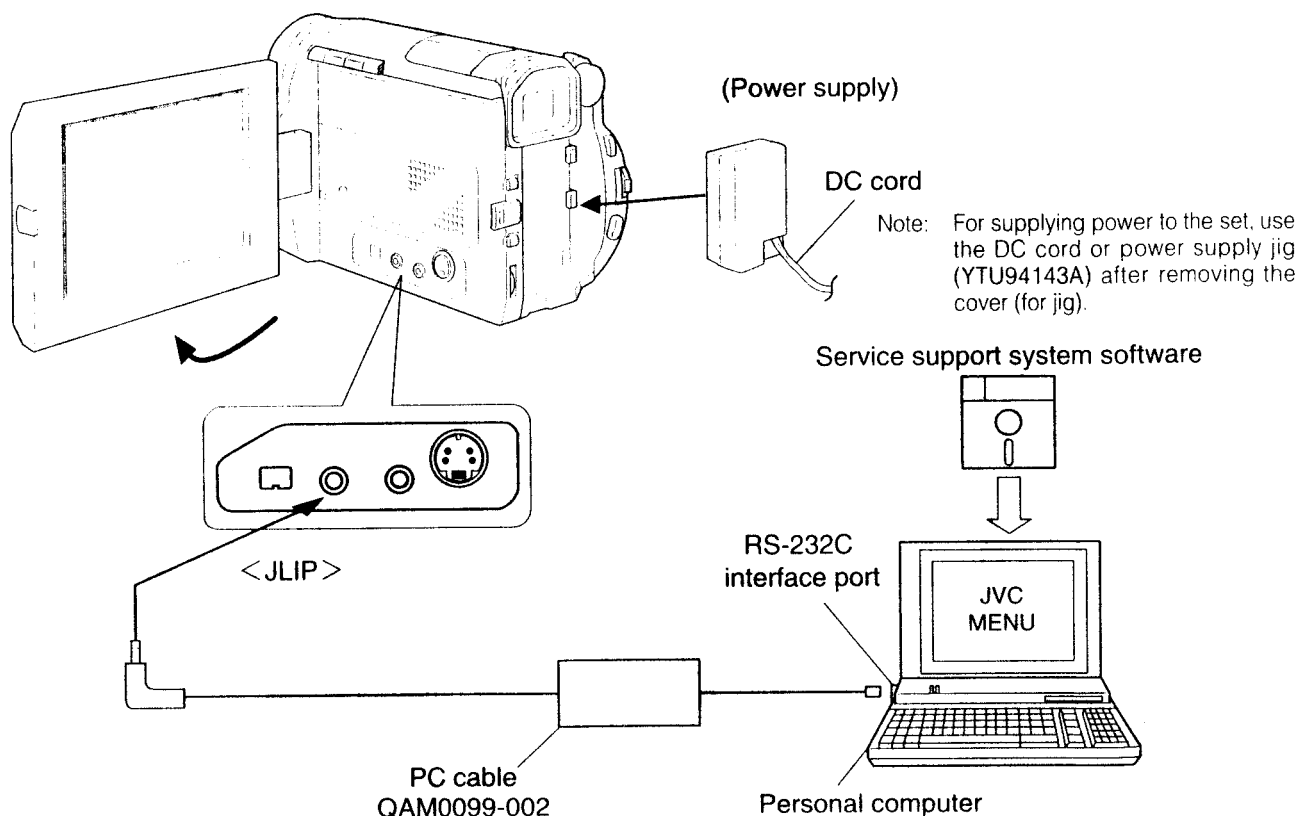


Fig. 3-1-1 Setup for electrical adjustment with personal computer (I)

NOTE:

The diagram illustrates the JVC service support system setup. A personal computer is connected to a video camera via an RS-232C interface port and a PC cable (QAM0099-003). The camera is connected to various components including the E.VF assembly, Monitor assembly, Front cover assembly, OP block assembly, and Mechanism assembly. The diagram also shows the connection of the Power supply jig (YTU94143A) and the Jig connector cable (YTU93082D).

3-2

SECTION 4 CHARTS AND DIAGRAMS

NOTES OF SCHEMATIC DIAGRAM

Safety precautions

The Components identified by the symbol  are critical for safety. For continued safety, replace safety critical components only with manufacturer's recommended parts.

1. Units of components on the schematic diagram

Unless otherwise specified.

- 1) All resistance values are in ohm. 1/6 W, 1/8 W (refer to parts list).
Chip resistors are 1/16 W.
K: K Ω (1000 Ω), M: M Ω (1000K Ω)
- 2) All capacitance values are in μ F, (P: PF).
- 3) All inductance values are in μ H, (m: mH).
- 4) All diodes are 1SS133, MA165 or 1N4148M (refer to parts list).

2. Indications of control voltage

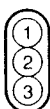
AUX : Active at high.

$\overline{\text{AUX}}$ or AUX(L) : Active at low.

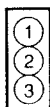
3. Interpreting Connector indications



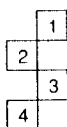
Removable connector



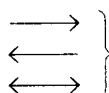
Wire soldered directly on board



Non-removable Board connector



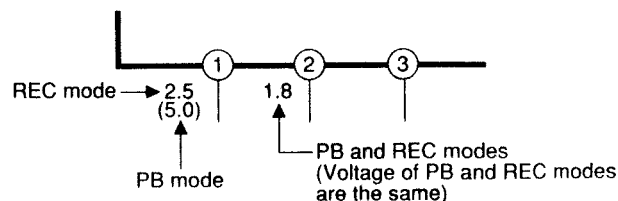
Board to Board



Connected pattern on board
The arrows indicate signal path

4. Voltage measurement

- 1) Regulator (DC/DC CONV) circuits
REC : Colour bar signal.
PB : Alignment tape (Colour bar).
— : Unmeasurable or unnecessary to measure.
- 4) Indication on schematic diagram
Voltage Indications for REC and PB mode on the schematic diagram are as shown below.



Note: If the voltages are not indicated on the schematic diagram, refer to the voltage charts.

5. Signal path Symbols

The arrows indicate the signal path as follows.

NOTE : The arrow is DVC unique object.

- Playback signal path
- Playback and recording signal path
- Recording signal path (including E-E signal path)
- Capstan servo path
- Drum servo path

(Example)

- R-Y Playback R-Y signal path
- Y Recording Y signal path

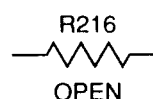
6. Indication of the parts for adjustments

The parts for the adjustments are surrounded with the circle as shown below.



7. Indication of the parts not mounted on the circuit board

"OPEN" is indicated by the parts not mounted on the circuit board.



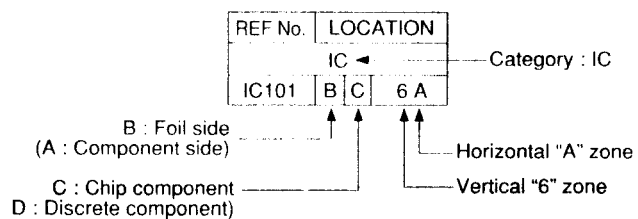
CIRCUIT BOARD NOTES

1. Foil and Component sides

- 1) Foil side (B side) :
Parts on the foil side seen from foil face (pattern face) are indicated.
- 2) Component side (A side) :
Parts on the component side seen from component face (parts face) indicated.

2. Parts location guides

Parts location are indicated by guide scale on the circuit board.



Note: For general information in service manual, please refer to the Service Manual of GENERAL INFORMATION Edition 4 No. 82054D (January 1994).

5



4.2



4

3

2

1

A

B

C

D

4-5

4-6

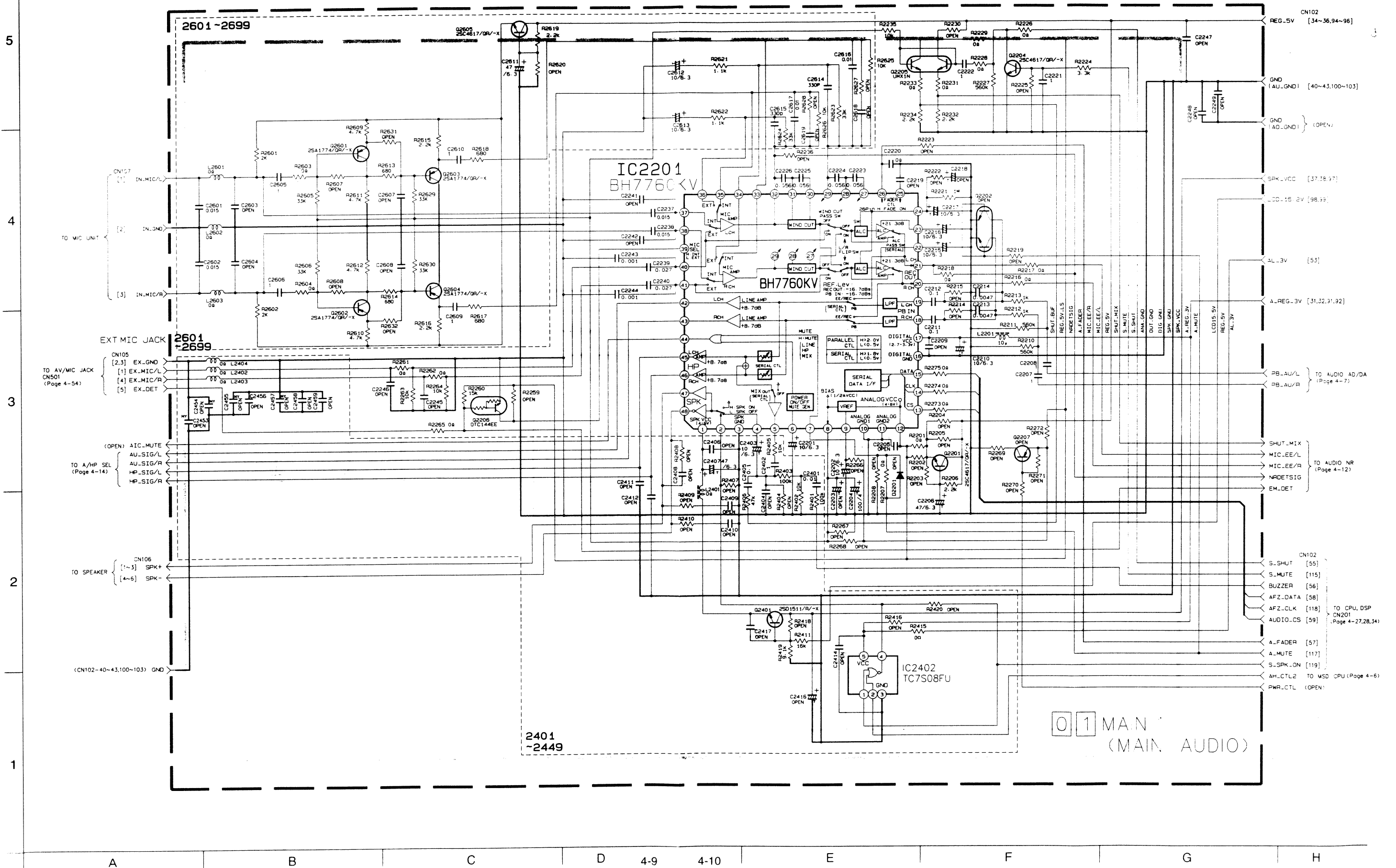
E

F

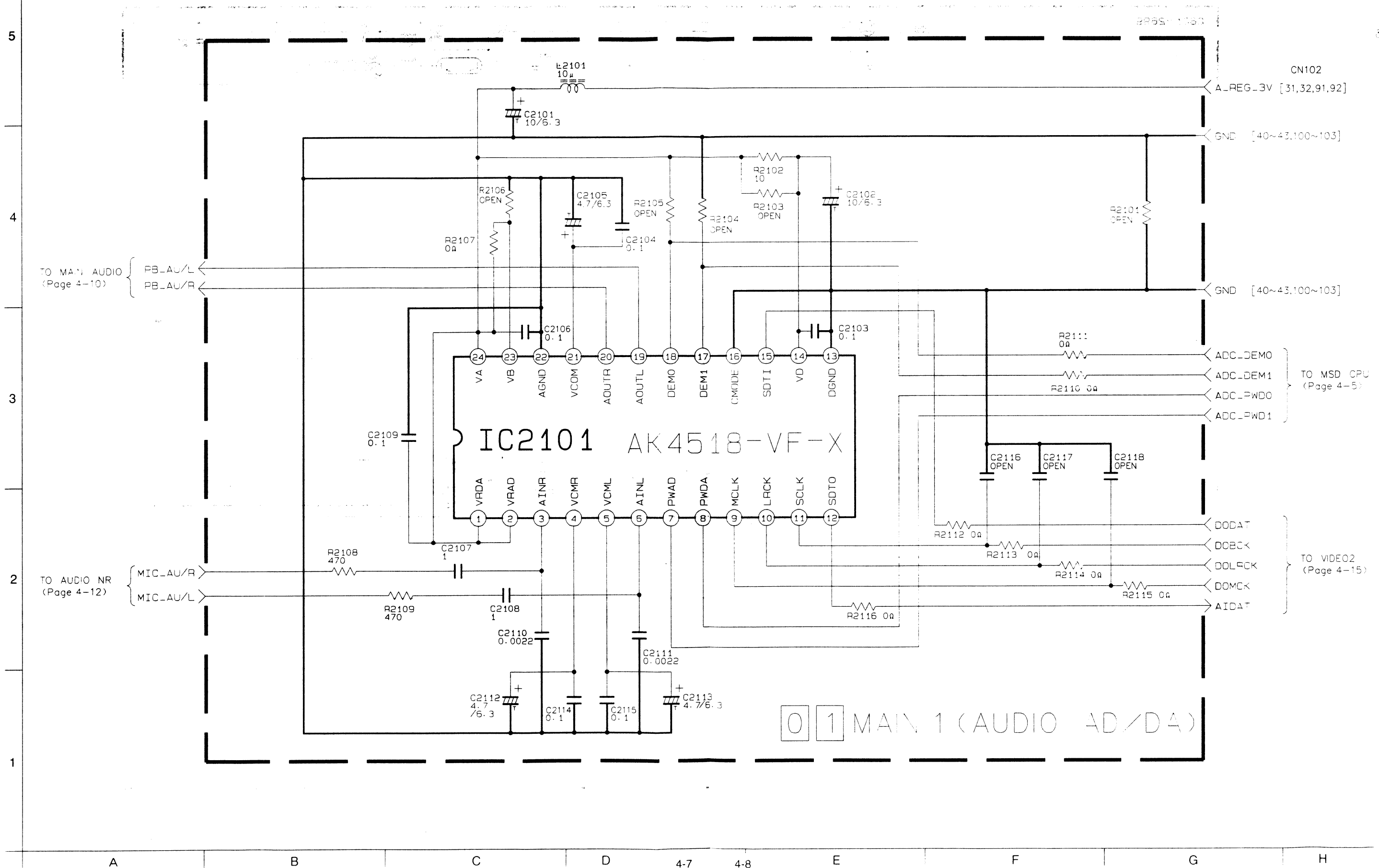
G

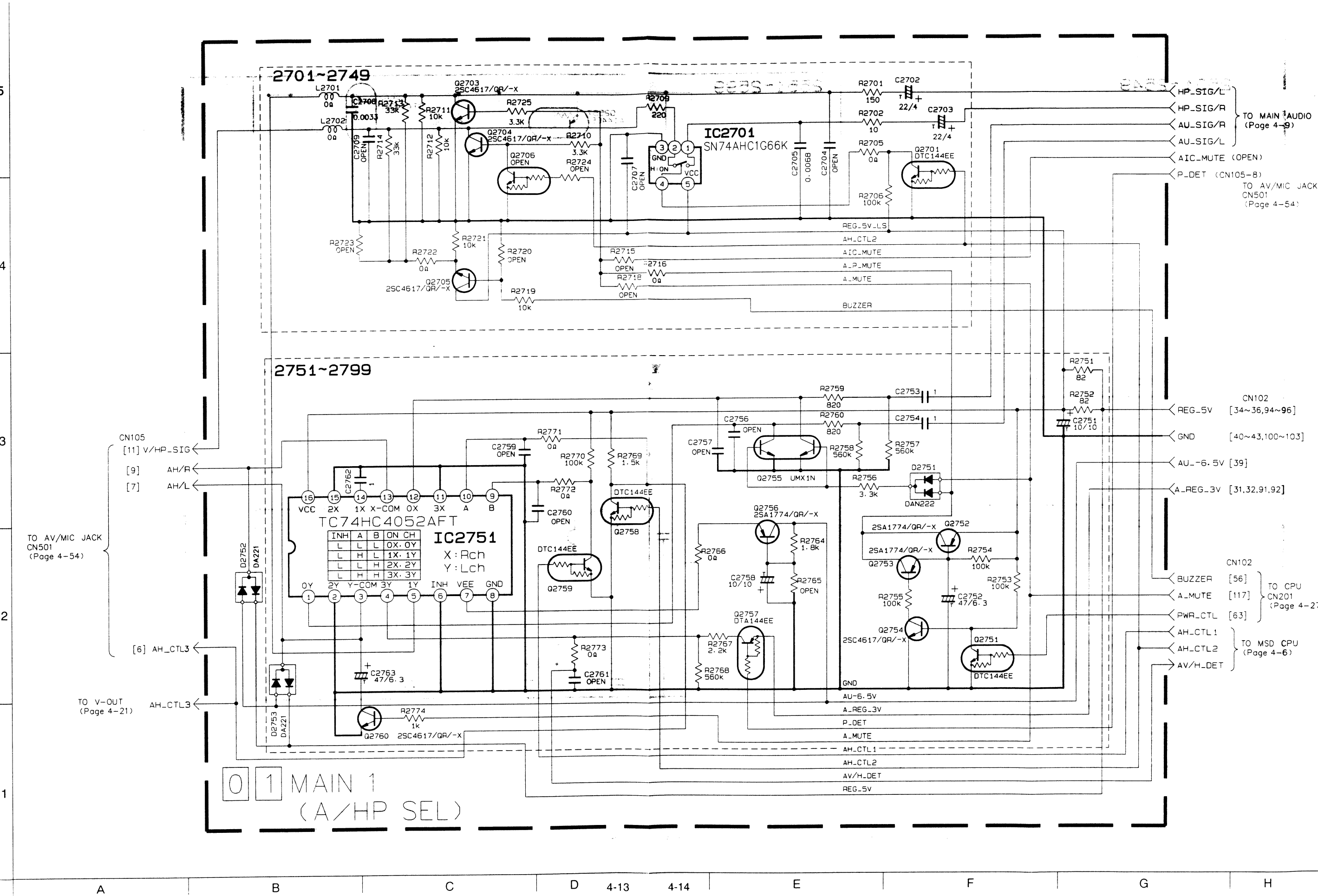
H

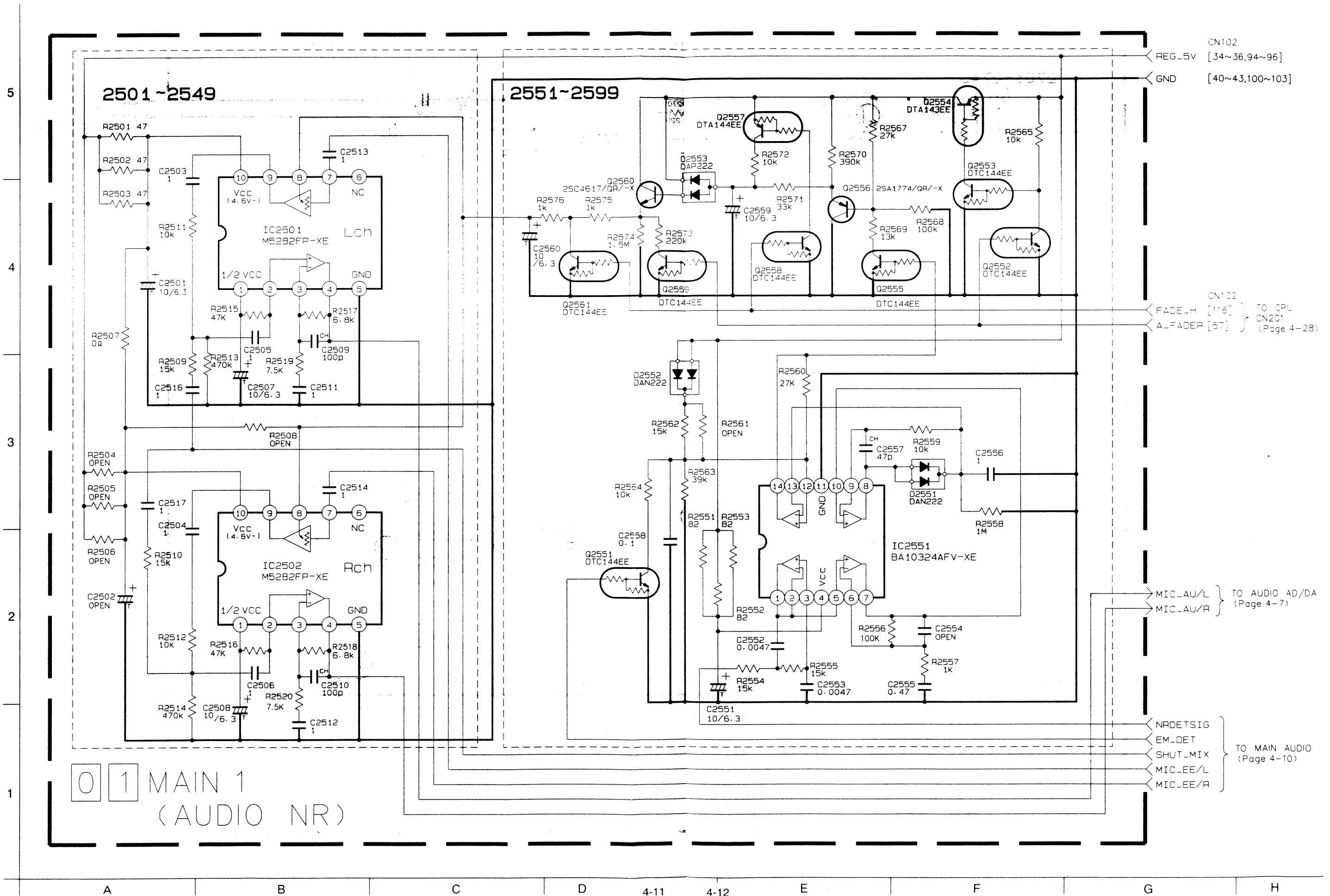
4.4 MAIN AUDIO SCHEMATIC DIAGRAM



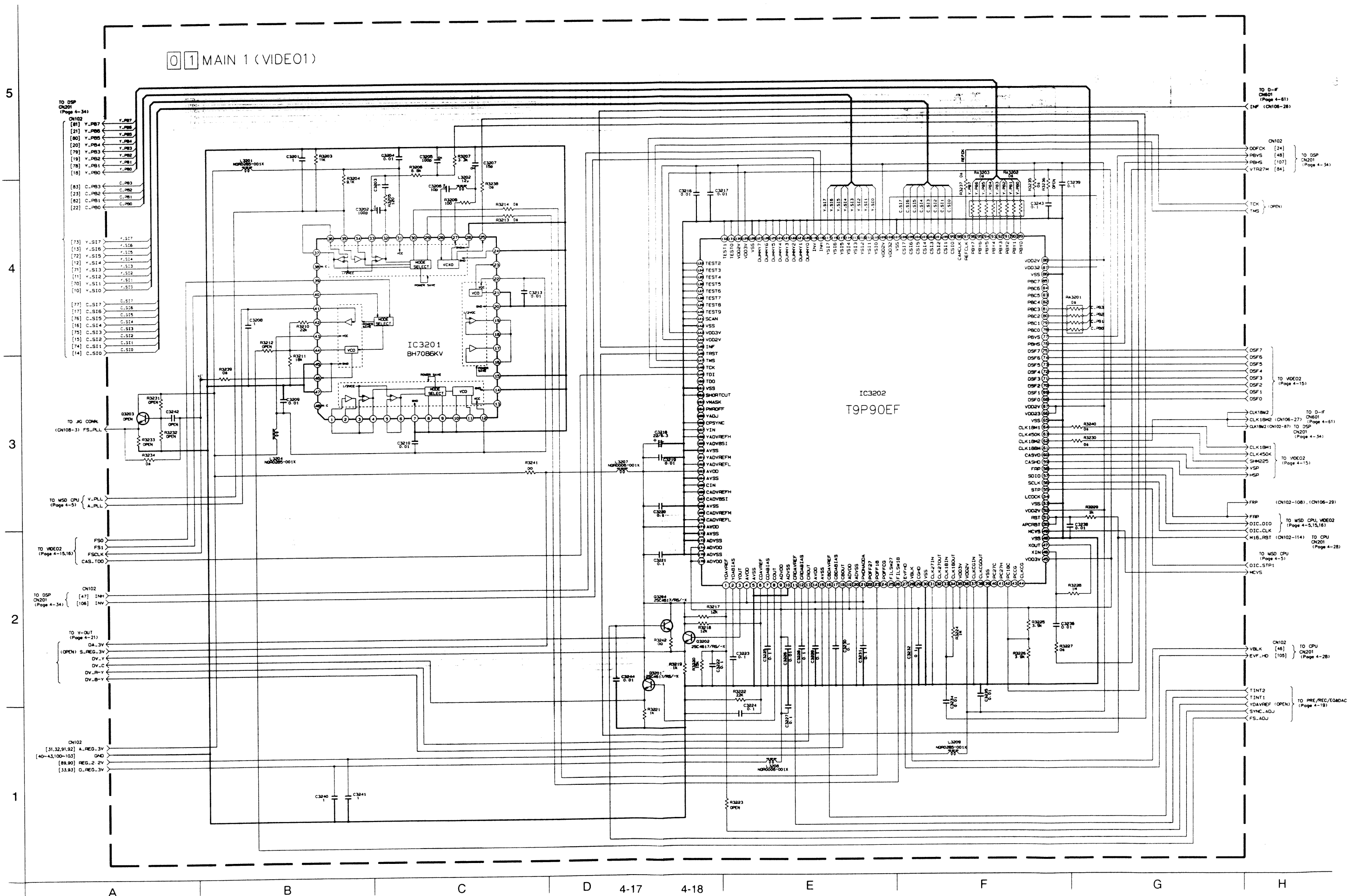
4.3 AUDIO AD/DA SCHEMATIC DIAGRAM







4.8 VIDEO 1 SCHEMATIC DIAGRAM



5



1

A

B

C

D

4-15

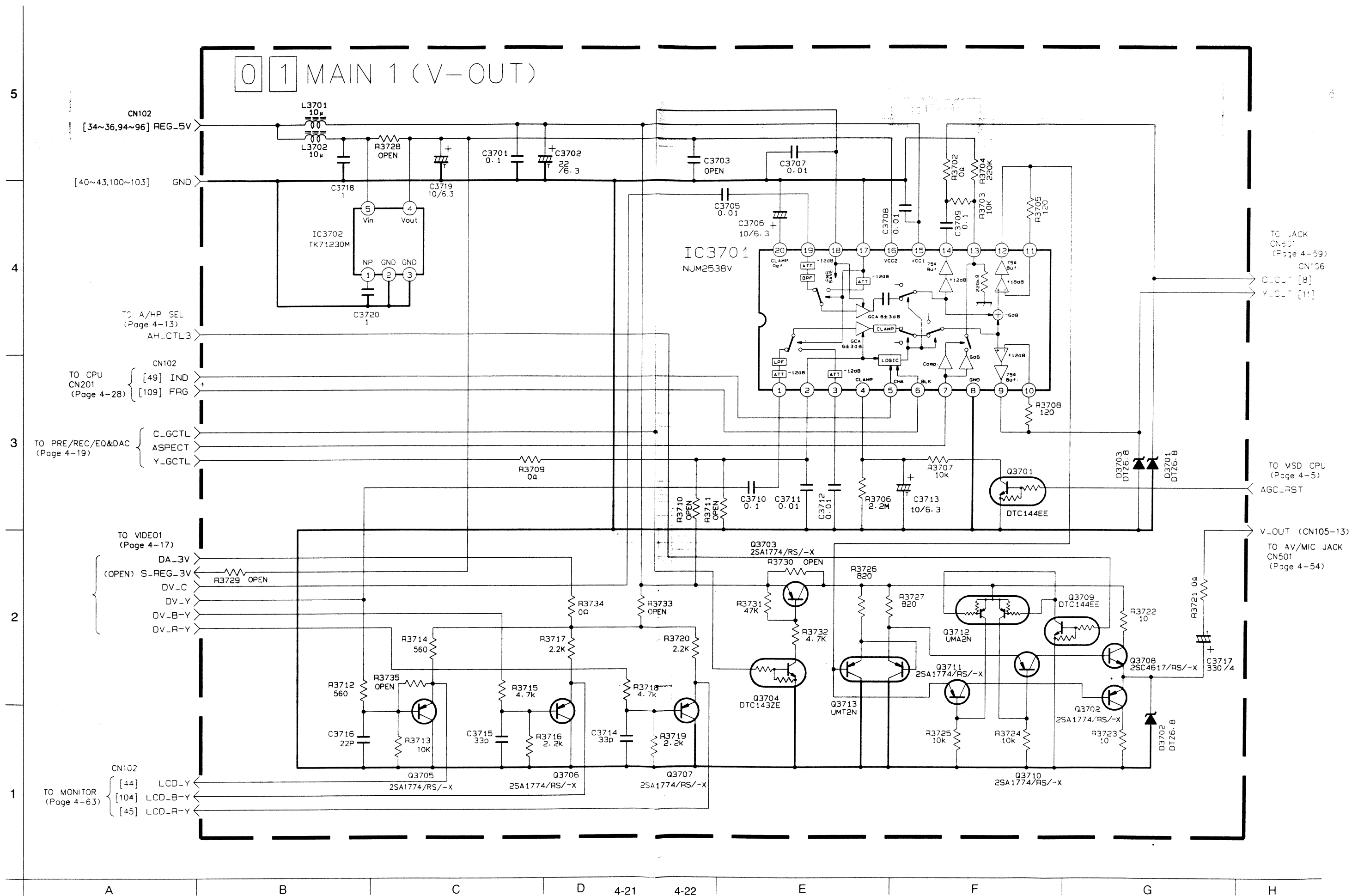
4-16

E

F

G

H



5



A	B	C	D	4-19	4-20	E	F	G	H
---	---	---	---	------	------	---	---	---	---

COMPONENT PARTS LOCATION GUIDE (MAIN1)

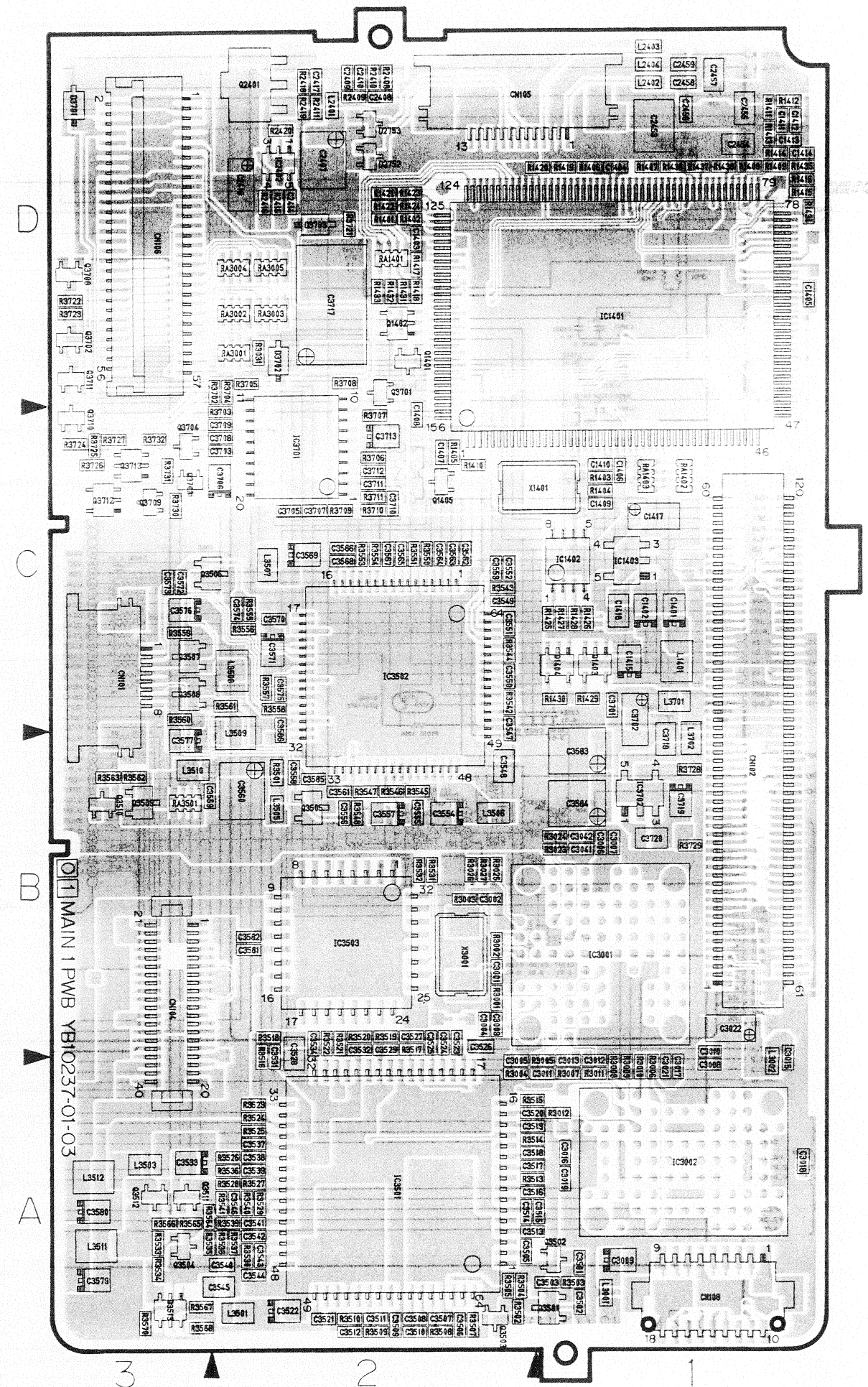
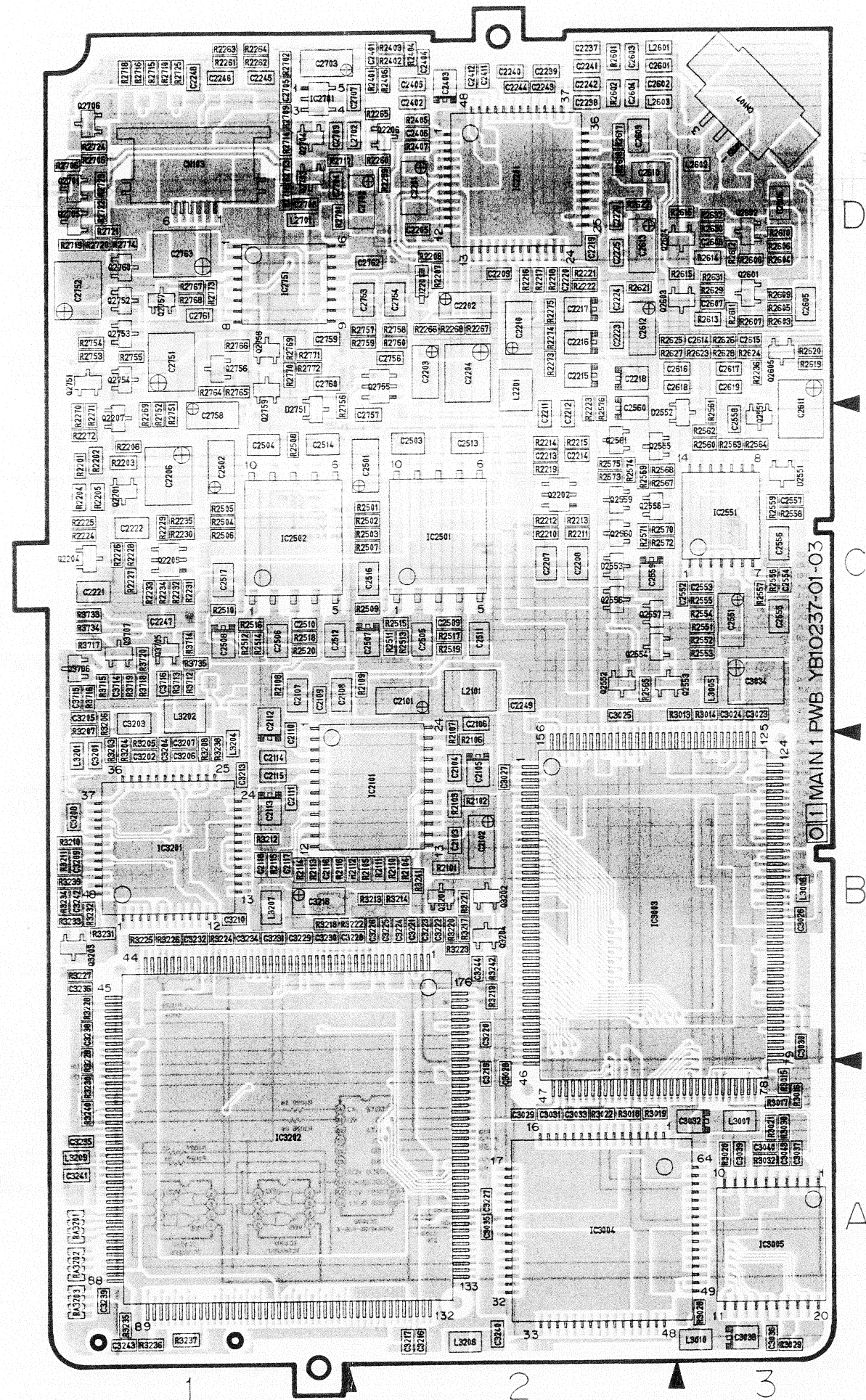
REF.No.	LOCATION	REF.No.	LOCATION	REF.No.	LOCATION	REF.No.	LOCATION	REF.No.	LOCATION
CAPACITOR		C2456	A C 1D	C3028	B C 2A	C3544	A C 2A	IC2551	B C 3C
C1401	A C 1C	C2457	A C 1D	C3029	B C 2A	C3545	A C 2A	IC2701	B C 1D
C1402	A C 1C	C2458	A C 1D	C3030	B C 3B	C3546	A C 2A	IC2751	B C 1D
C1403	A C 1D	C2459	A C 1D	C3031	B C 2A	C3547	A C 2B	IC3001	A C 1B
C1404	A C 1D	C2501	B C 2C	C3032	B C 3A	C3548	A C 2B	IC3002	A C 1A
C1405	A C 1D	C2502	B C 1C	C3033	B C 2A	C3549	A C 2C	IC3003	B C 2B
C1406	A C 1C	C2503	B C 2C	C3034	B C 3C	C3550	A C 2C	IC3004	B C 2A
C1407	A C 2C	C2504	B C 1C	C3035	B C 2A	C3551	A C 2C	IC3005	B C 3A
C1408	A C 2C	C2505	B C 2C	C3036	B C 3A	C3552	A C 2C	IC3201	B C 1B
C1409	A C 1C	C2506	B C 1C	C3037	B C 3A	C3553	A C 2C	IC3202	B C 1A
C1410	A C 1C	C2507	B C 2C	C3038	B C 3A	C3554	A C 2B	IC3501	A C 2A
C1411	A C 1D	C2508	B C 1C	C3039	B C 3A	C3555	A C 2B	IC3502	A C 2C
C1412	A C 1D	C2509	B C 2C	C3040	B C 3A	C3556	A C 2B	IC3503	A C 2B
C1413	A C 1D	C2510	B C 1C	C3041	A C 1B	C3557	A C 2B	IC3701	A C 2C
C1414	A C 1D	C2511	B C 2C	C3042	A C 1B	C3558	A C 2B	IC3702	A C 1B
C1415	A C 1C	C2512	B C 1C	C3043	B C 3A	C3559	A C 3B	COIL	
C1416	A C 1C	C2513	B C 2C	C3201	B C 1B	C3560	A C 2B	L1401	A C 1C
C1417	A C 1C	C2514	B C 1C	C3202	B C 1B	C3561	A C 2B	L2101	B C 2C
C2101	B C 2C	C2515	B C 2C	C3203	B C 1C	C3562	A C 2C	L2201	B C 2D
C2102	B C 2B	C2517	B C 1C	C3204	B C 1B	C3563	A C 2C	L2401	A C 2D
C2103	B C 2B	C2551	B C 3C	C3205	B C 1C	C3564	A C 2C	L2402	A C 1D
C2104	B C 2B	C2552	B C 3C	C3206	B C 1B	C3565	A C 2C	L2403	A C 1D
C2105	B C 2B	C2553	B C 3C	C3207	B C 1B	C3566	A C 2C	L2404	A C 1D
C2106	B C 2C	C2554	B C 3C	C3208	B C 1B	C3567	A C 2C	L2601	B C 2D
C2107	B C 1C	C2555	B C 3C	C3209	B C 1B	C3568	A C 2C	L2602	B C 3D
C2108	B C 1C	C2556	B C 3C	C3210	B C 1B	C3569	A C 2C	L2603	B C 2D
C2109	B C 1C	C2557	B C 3C	C3213	B C 1B	C3570	A C 2C	L2701	B C 1D
C2110	B C 1C	C2558	B C 3C	C3216	B C 2A	C3571	A C 2C	L2702	B C 2D
C2111	B C 1B	C2559	B C 2C	C3217	B C 2A	C3572	A C 3C	L3001	A C 1A
C2112	B C 1C	C2560	B C 2C	C3218	B C 1B	C3573	A C 3C	L3002	A C 1A
C2113	B C 1B	C2601	B C 2D	C3219	B C 2A	C3574	A C 2C	L3005	B C 3C
C2114	B C 1B	C2602	B C 2D	C3220	B C 2B	C3575	A C 2C	L3006	B C 3B
C2115	B C 1B	C2603	B C 2D	C3221	B C 2B	C3576	A C 3C	L3007	B C 3A
C2116	B C 1B	C2604	B C 2D	C3222	B C 2B	C3577	A C 3B	L3010	B C 3A
C2117	B C 1B	C2605	B C 3D	C3223	B C 2B	C3579	A C 3A	L3201	B C 1B
C2118	B C 1B	C2606	B C 3D	C3224	B C 2B	C3580	A C 3A	L3202	B C 1C
C2201	B C 2D	C2607	B C 3D	C3225	B C 2B	C3581	A C 2B	L3204	B C 1B
C2202	B C 2D	C2608	B C 3D	C3226	B C 2B	C3582	A C 2B	L3207	B C 1B
C2203	B C 2D	C2609	B C 2D	C3227	B C 2A	C3583	A C 1B	L3208	B C 2A
C2204	B C 2D	C2610	B C 2D	C3228	B C 2B	C3584	A C 1B	L3209	B C 1A
C2205	B C 2D	C2611	B C 3C	C3229	B C 1B	C3585	A C 2B	L3501	A C 2A
C2206	B C 1C	C2612	B C 2D	C3230	B C 1B	C3586	A C 2B	L3503	A C 3A
C2207	B C 2C	C2613	B C 2D	C3231	B C 1B	C3701	A C 1C	L3505	A C 2B
C2208	B C 2C	C2614	B C 3D	C3232	B C 1B	C3702	A C 1C	L3506	A C 2B
C2209	B C 2D	C2615	B C 3D	C3234	B C 1B	C3703	A C 2C	L3507	A C 2C
C2210	B C 2D	C2616	B C 3D	C3235	B C 1A	C3705	A C 2C	L3508	A C 2C
C2211	B C 2C	C2617	B C 3D	C3236	B C 1B	C3706	A C 2C	L3509	A C 2B
C2212	B C 2C	C2618	B C 3D	C3238	B C 1B	C3707	A C 2C	L3510	A C 3B
C2213	B C 2C	C2619	B C 3D	C3239	B C 1A	C3708	A C 2C	L3511	A C 3A
C2214	B C 2C	C2702	B C 2D	C3240	B C 2A	C3709	A C 2C	L3512	A C 3A
C2215	B C 2D	C2703	B C 1D	C3241	B C 1A	C3710	A C 2C	L3701	A C 1C
C2216	B C 2D	C2704	B C 1D	C3242	B C 1B	C3711	A C 2C	L3702	A C 1B
C2217	B C 2D	C2705	B C 1D	C3243	B C 1A	C3712	A C 2C	TRANSISTOR	
C2218	B C 2D	C2707	B C 2D	C3244	B C 2B	C3713	A C 2C	Q1401	A C 2D
C2219	B C 2D	C2708	B C 1D	C3501	A C 1A	C3714	B C 1C	Q1402	A C 2D
C2220	B C 2D	C2709	B C 1D	C3502	A C 1A	C3715	B C 1C	Q1403	A C 1C
C2221	B C 1C	C2751	B C 1D	C3503	A C 1A	C3716	B C 1C	Q1404	A C 1C
C2222	B C 1C	C2752	B C 1D	C3505	A C 2A	C3717	A C 2D	Q1405	A C 2C
C2223	B C 2D	C2753	B C 2D	C3506	A C 2A	C3718	A C 1B	Q2201	B C 1C
C2224	B C 2D	C2754	B C 2D	C3507	A C 2A	C3719	A C 1B	Q2202	B C 2C
C2225	B C 2D	C2756	B C 2D	C3508	A C 2A	C3720	A C 1B	Q2204	B C 1C
C2226	B C 2D	C2757	B C 2C	C3509	A C 2A	CONNECTOR		Q2205	B C 1C
C2237	B C 2D	C2758	B C 1C	C3510	A C 2A	CN101	A C 3C	Q2206	B C 2D
C2238	B C 2D	C2759	B C 1D	C3511	A C 2A	CN102	A C 1B	Q2207	B C 1C
C2239	B C 2D	C2760	B C 1D	C3512	A C 2A	CN103	B C 1D	Q2401	A C 2D
C2240	B C 2D	C2761	B C 1D	C3513	A C 2A	CN104	A C 3B	Q2551	B C 3C
C2241	B C 2D	C2762	B C 2D	C3514	A C 2A	CN105	A C 1D	Q2552	B C 2C
C2242	B C 2D	C2763	B C 1D	C3515	A C 1A	CN106	A C 3D	Q2553	B C 2C
C2243	B C 2D	C3001	A C 2B	C3516	A C 2A	CN107	B C 3D	Q2554	B C 2C
C2244	B C 2D	C3002	A C 2B	C3517	A C 2A	CN108	A C 1A	Q2555	B C 2C
C2245	B C 1D	C3003	A C 2B	C3518	A C 2A	DIODE		Q2556	B C 2C
C2246	B C 1D	C3004	A C 2B	C3519	A C 2A	D2201	B C 2D	Q2557	B C 2C
C2247	B C 1C	C3005	A C 2A	C3520	A C 2A	D2551	B C 3C	Q2558	B C 2C
C2248	B C 1D	C3006	A C 1B	C3521	A C 2A	D2552	B C 3C	Q2559	B C 2C
C2249	B C 2C	C3007	A C 1B	C3522	A C 2A	D2553	B C 2C	Q2560	B C 2C
C2401	B C 2D	C3008	A C 1A	C3523	A C 2B	D2751	B C 1C	Q2561	B C 2C
C2402	B C 2D	C3009	A C 1A	C3524	A C 2B	D2752	A C 2D	Q2601	B C 3D
C2403	B C 2D	C3010	A C 1A	C3525	A C 2B	D2753	A C 2D	Q2602	B C 3D
C2404	B C 2D	C3011	A C 1A	C3526	A C 2B	D3701	A C 3D	Q2603	B C 3D
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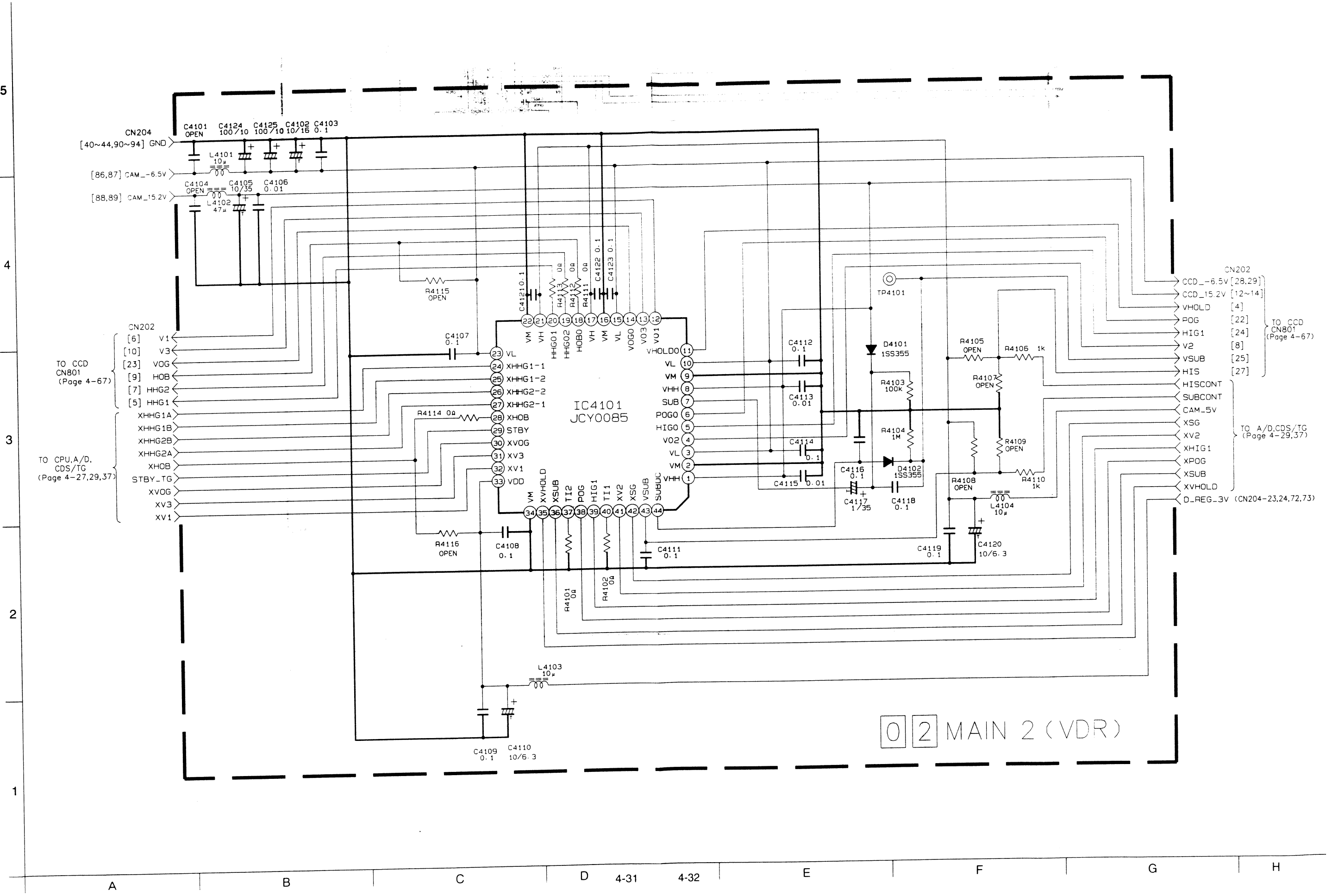
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R2107	B	C	2C	R2516	B	C	1C	R2765	B	C	1D	R3518	A	C	2B	RA3202	B	C	1A
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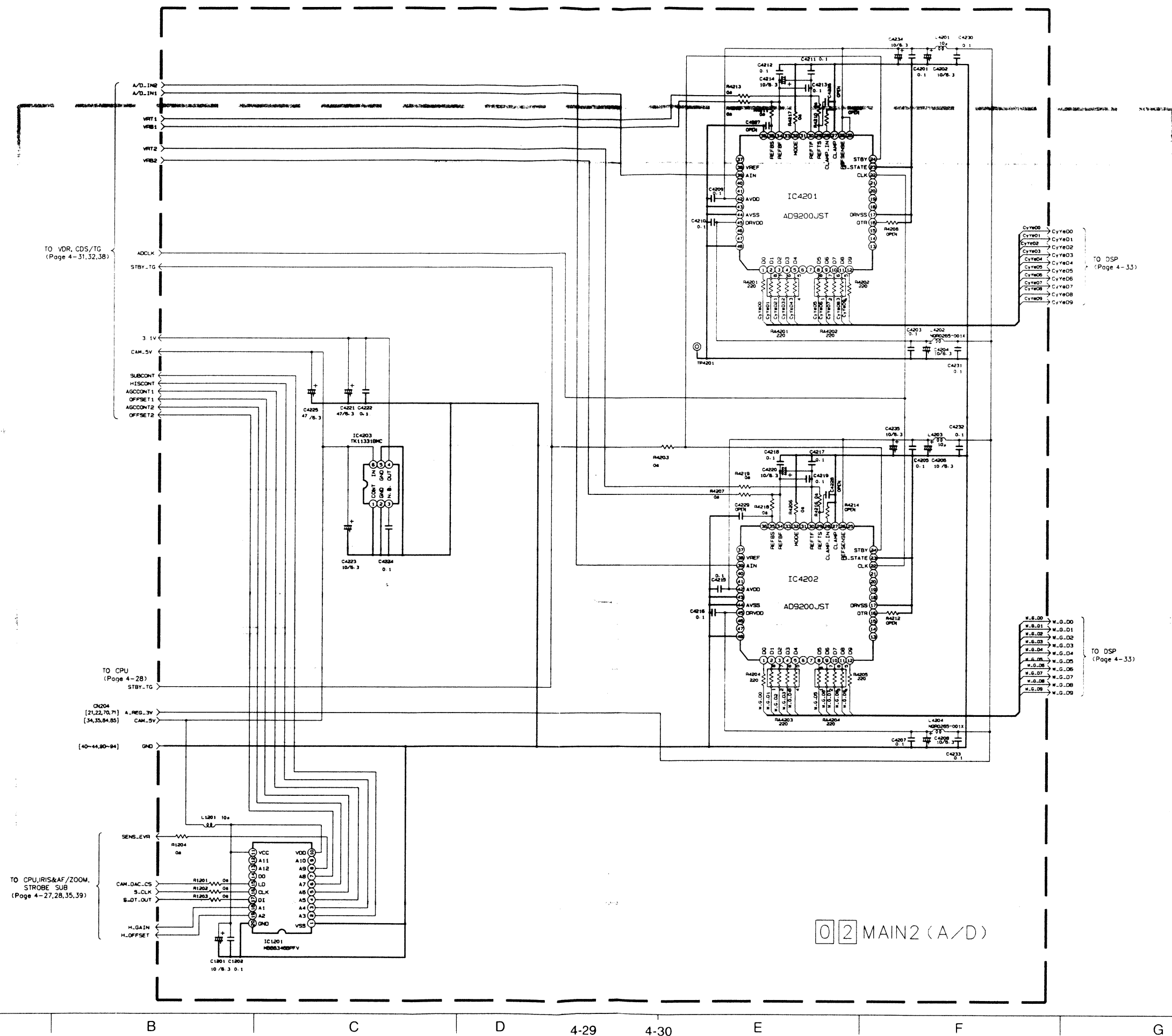


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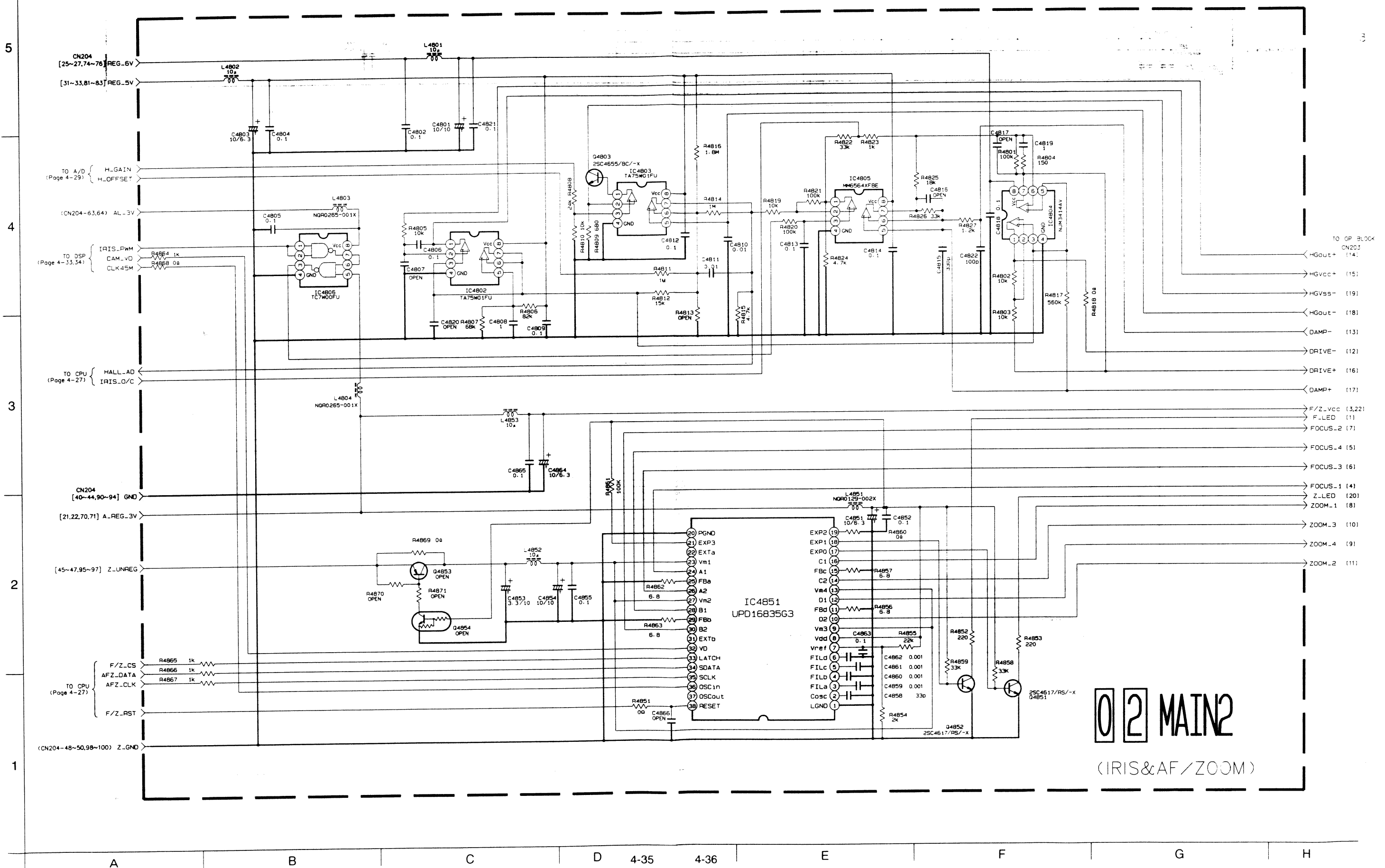




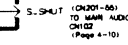
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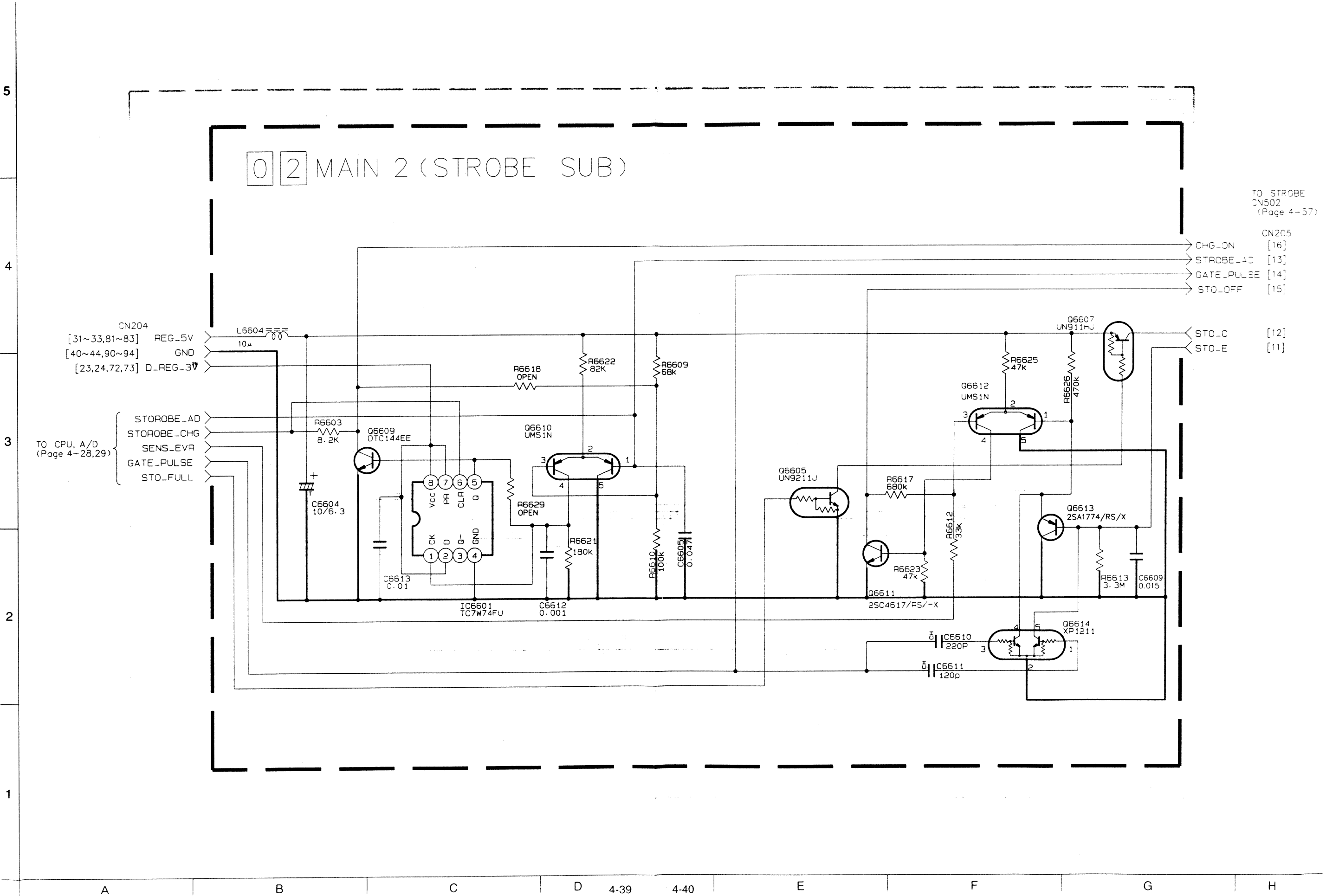
4.16 IRIS & AF/ZOOM SCHEMATIC DIAGRAM



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4.18 STROBE SUB SCHEMATIC DIAGRAM

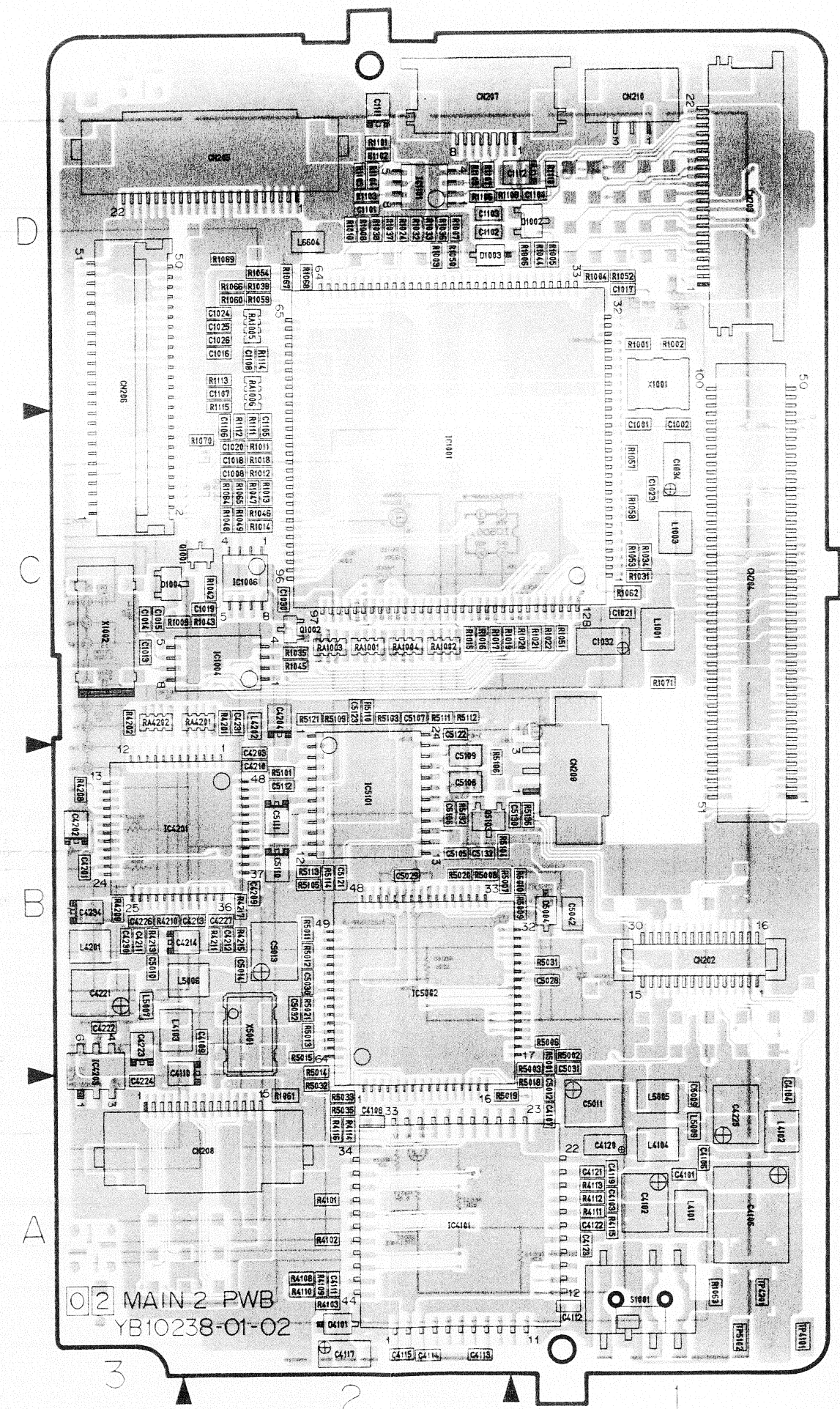




COMPONENT PARTS LOCATION GUIDE (MAIN2)

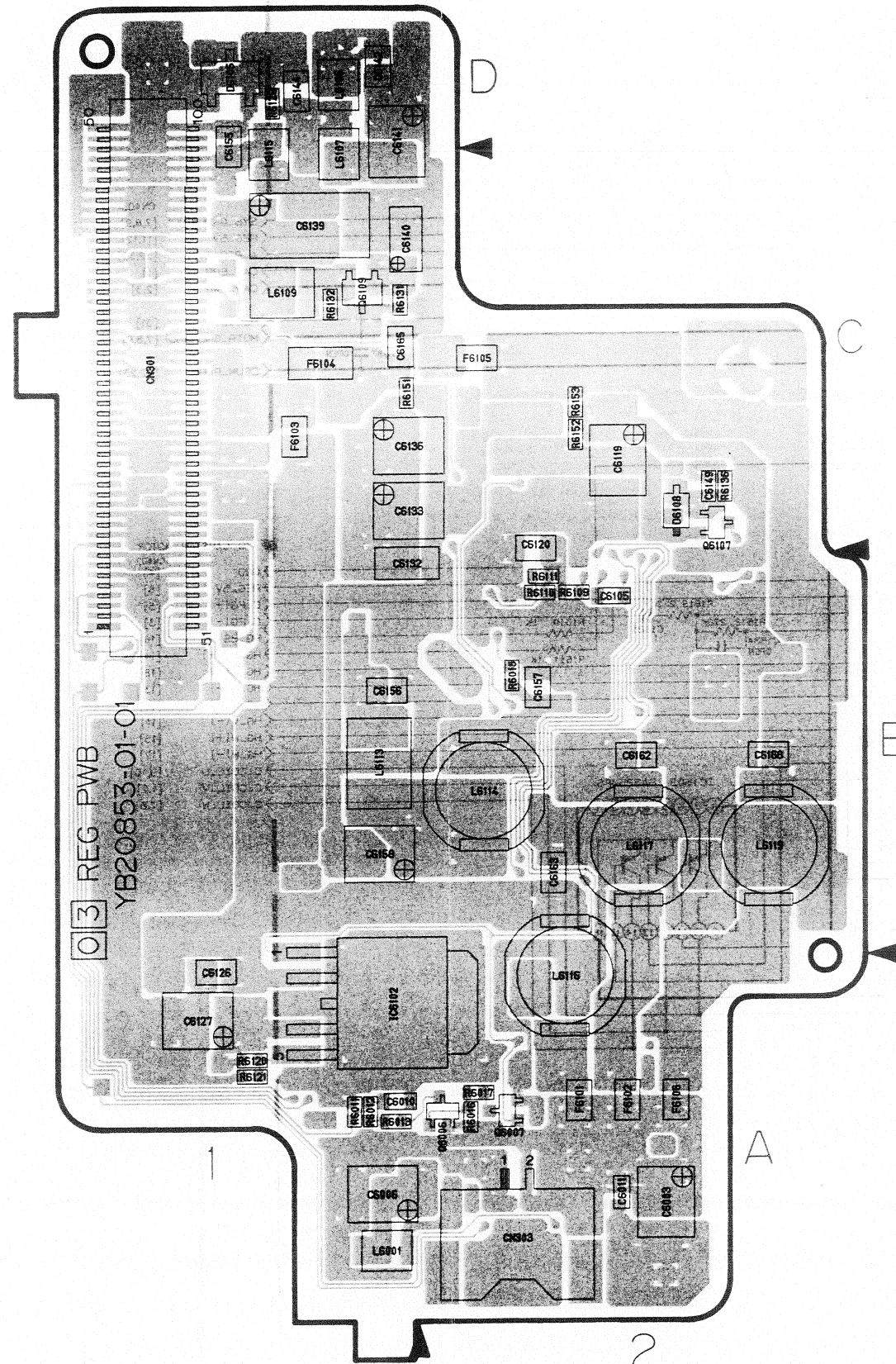
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C1108	A C 2D	C4304	B C 2D	C4865	B C 1D	D1004	A C 3C	L5101	B C 2B
C1111	A C 2D	C4305	B C 2C	C4866	B C 1D	D4101	A C 2A	L5102	B C 1B
C1112	A C 1D	C4306	B C 2D	C5009	A C 1A	D4102	B C 2A	L6604	A C 2D
C1201	B C 2B	C4307	B C 2D	C5010	A C 3B	D5004	A C 1B	TRANSISTOR	
C1202	B C 2B	C4308	B C 2D	C5011	A C 1A	IC		Q1001	A C 2C
C4101	A C 1A	C4309	B C 2C	C5012	A C 1A	IC1001	A C 2C	Q1002	A C 2C
C4102	A C 1A	C4310	B C 2D	C5013	A C 2B	IC1002	B C 2A	Q4301	B C 1C
C4103	A C 1A	C4311	B C 1C	C5014	A C 2B	IC1003	B C 2B	Q4803	B C 2D
C4104	A C 1A	C4312	B C 2C	C5028	A C 1B	IC1004	A C 2C	Q4851	B C 1D
C4105	A C 1A	C4313	B C 1C	C5029	A C 2B	IC1005	B C 2C	Q4852	B C 1D
C4106	A C 1A	C4314	B C 1C	C5030	A C 2B	IC1006	A C 2C	Q4853	B C 1D
C4107	A C 1A	C4315	B C 1C	C5031	A C 1B	IC1007	B C 3C	Q4854	B C 1D
C4108	A C 2A	C4316	B C 1C	C5032	A C 2B	IC1008	B C 2B	Q5103	A C 2B
C4109	A C 2B	C4317	B C 1C	C5042	A C 1B	IC1009	B C 2C	Q5104	B C 2B
C4110	A C 2B	C4318	B C 1C	C5101	B C 2B	IC1010	B C 3C	Q6605	B C 3D
C4111	A C 2A	C4319	B C 1C	C5102	B C 2B	IC1101	A C 2D	Q6607	B C 2D
C4112	A C 1A	C4320	B C 2C	C5103	B C 1B	IC1201	B C 2B	Q6609	B C 2D
C4113	A C 2A	C4321	B C 2C	C5104	B C 1B	IC4101	A C 2A	Q6610	B C 2D
C4114	A C 2A	C4322	B C 2C	C5105	A C 2B	IC4201	A C 3B	Q6611	B C 3D
C4115	A C 2A	C4323	B C 2C	C5106	A C 2B	IC4202	B C 1A	Q6612	B C 3D
C4116	B C 2A	C4324	B C 2C	C5107	A C 2C	IC4203	A C 3B	Q6613	B C 2D
C4117	A C 2A	C4325	B C 2C	C5108	A C 2B	IC4301	B C 2C	Q6614	B C 3D
C4118	B C 2A	C4326	B C 3D	C5109	A C 2B	IC4302	B C 2C	RESISTOR	
C4119	A C 1A	C4327	B C 3D	C5110	A C 2B	IC4303	B C 3B	R1001	A C 1D
C4120	A C 1A	C4328	B C 2C	C5111	A C 2B	IC4304	B C 3A	R1002	A C 1D
C4121	A C 1A	C4329	B C 3D	C5112	A C 2B	IC4802	B C 2D	R1003	A C 2D
C4122	A C 1A	C4330	B C 3C	C5113	B C 2B				
C4123	A C 1A	C4333	B C 1D	C5114	B C 2B				
C4124	B C 1A	C4334	B C 2C	C5115	B C 1B				

REF.No.	LOCATION		REF.No.	LOCATION		REF.No.	LOCATION		REF.No.	LOCATION		REF.No.	LOCATION										
R1004	A	C	1D	R1101	A	C	2D	R4315	B	C	2C	R4867	B	C	1D	R6626	B	C	3D				
R1005	A	C	1D	R1102	A	C	2D	R4316	B	C	2C	R4868	B	C	1D	R6629	B	C	2D				
R1006	A	C	1D	R1103	A	C	2D	R4317	B	C	2C	R4869	B	C	1D	RA1001	A	C	2C				
R1007	A	C	2D	R1104	A	C	2D	R4318	B	C	1D	R4870	B	C	1D	RA1002	A	C	2C				
R1008	A	C	2D	R1105	A	C	2D	R4319	B	C	1D	R4871	B	C	1D	RA1003	A	C	2C				
R1009	A	C	3C	R1106	A	C	2D	R4320	B	C	1D	R5001	A	C	1B	RA1004	A	C	2C				
R1010	A	C	2D	R1107	A	C	2D	R4321	B	C	2C	R5002	A	C	1B	RA1005	A	C	2D				
R1011	A	C	2C	R1108	A	C	1D	R4322	B	C	2C	R5003	A	C	1B	RA1006	A	C	2D				
R1012	A	C	2C	R1109	A	C	2D	R4323	B	C	1C	R5006	A	C	1B	RA4201	A	C	2C				
R1013	A	C	2C	R1110	A	C	1D	R4324	B	C	1C	R5007	A	C	2B	RA4202	A	C	3C				
R1014	A	C	2C	R1111	A	C	2C	R4325	B	C	1C	R5008	A	C	2B	RA4203	B	C	1B				
R1015	A	C	2C	R1112	A	C	2C	R4326	B	C	1D	R5009	A	C	1B	RA4204	B	C	1A				
R1016	A	C	2C	R1113	A	C	2D	R4327	B	C	1D	R5010	A	C	1B	RA4301	B	C	1C				
R1017	A	C	2C	R1114	A	C	2D	R4328	B	C	1C	R5011	A	C	2B	RA4302	B	C	1C				
R1018	A	C	2C	R1115	A	C	2D	R4329	B	C	1C	R5012	A	C	2B	RA4303	B	C	1C				
R1019	A	C	2C	R1201	B	C	2A	R4330	B	C	1C	R5013	A	C	2B	RA4304	B	C	1C				
R1020	A	C	1C	R1202	B	C	2A	R4331	B	C	1D	R5014	A	C	2B	RA4305	B	C	3C				
R1021	A	C	1C	R1203	B	C	2A	R4332	B	C	1D	R5015	A	C	2B	RA4306	B	C	3C				
R1022	A	C	1C	R1204	B	C	2B	R4333	B	C	1D	R5018	A	C	1A	RA4307	B	C	3C				
R1023	B	C	2C	R4101	A	C	2A	R4334	B	C	1C	R5019	A	C	2A	RA4308	B	C	3C				
R1024	A	C	2D	R4102	A	C	2A	R4335	B	C	1C	R5020	A	C	2B	RA4309	B	C	3C				
R1025	B	C	3A	R4103	A	C	2A	R4336	B	C	2C	R5021	A	C	2B	RA4310	B	C	3D				
R1026	B	C	3A	R4104	B	C	2A	R4337	B	C	3C	R5031	A	C	1B	TEST POINT							
R1027	B	C	3C	R4105	B	C	2B	R4338	B	C	3C	R5032	A	C	2A								
R1028	B	C	2C	R4106	B	C	2B	R4339	B	C	2D	R5033	A	C	2A					TP4101	A	C	1A
R1029	B	C	2A	R4107	B	C	2B	R4801	B	C	1D	R5034	B	C	2A					TP4201	A	C	1A
R1030	B	C	2A	R4108	A	C	2A	R4802	B	C	2D	R5035	A	C	2A	TP5102	A	C	1A				
R1031	A	C	1C	R4109	A	C	2A	R4803	B	C	2D	R5101	A	C	2B								
R1032	A	C	2D	R4110	A	C	2A	R4804	B	C	1D	R5102	B	C	1B		OTHER						
R1033	A	C	2D	R4111	A	C	1A	R4805	B	C	2D	R5103	A	C	2C								
R1034	A	C	1C	R4112	A	C	1A	R4806	B	C	2D	R5104	A	C	2B	S1001					A	C	1A
R1035	A	C	2C	R4113	A	C	1A	R4807	B	C	2D	R5105	A	C	2B	X1001					A	C	1D
R1036	A	C	2D	R4114	A	C	2A	R4808	B	C	2D	R5106	A	C	2B	X1002	A	C	3C				
R1037	A	C	2D	R4115	A	C	1A	R4809	B	C	2D	R5107	B	C	2B	X5001	A	C	2B				
R1038	A	C	2D	R4116	A	C	2A	R4810	B	C	2D	R5108	B	C	2B								
R1039	A	C	2D	R4201	A	C	2C	R4811	B	C	2D	R5109	A	C	2C								
R1040	B	C	2B	R4202	A	C	3C	R4812	B	C	2D	R5110	A	C	2C								
R1041	B	C	2B	R4203	B	C	2A	R4813	B	C	2D	R5111	A	C	2C								
R1042	A	C	2C	R4204	B	C	1B	R4814	B	C	2D	R5112	A	C	2C								
R1043	A	C	2C	R4205	B	C	1A	R4815	B	C	2D	R5113	A	C	2B								
R1044	A	C	1D	R4206	B	C	2B	R4816	B	C	1D	R5114	A	C	2B								
R1045	A	C	2C	R4207	B	C	2B	R4817	B	C	2D	R5115	B	C	2B								
R1046	A	C	2C	R4208	A	C	3B	R4818	B	C	2D	R5116	B	C	2B								
R1047	A	C	2C	R4209	A	C	3B	R4819	B	C	2D	R5117	B	C	2B								
R1048	A	C	2C	R4210	A	C	3B	R4820	B	C	2D	R5118	B	C	2B								
R1049	A	C	2C	R4211	A	C	2B	R4821	B	C	2D	R5119	B	C	1B								
R1050	A	C	2D	R4212	B	C	1A	R4822	B	C	1D	R5120	B	C	1B								
R1051	A	C	1C	R4213	A	C	3B	R4823	B	C	1D	R5121	A	C	2C								
R1052	A	C	1D	R4214	B	C	2A	R4824	B	C	2D	R5122	B	C	1B								
R1053	A	C	1C	R4215	A	C	2B	R4825	B	C	1D	R5123	B	C	2B								
R1054	A	C	2D	R4216	B	C	2A	R4826	B	C	1D	R5132	A	C	2B								
R1055	B	C	2B	R4217	A	C	2B	R4827	B	C	1D	R5133	B	C	2B								
R1056	B	C	2B	R4218	B	C	2B	R4851	B	C	1D	R5134	B	C	1B								
R1057	A	C	1C	R4219	B	C	2B	R4852	B	C	1D	R5135	B	C	1B								
R1058	A	C	1C	R4301	B	C	2C	R4853	B	C	1D	R5136	A	C	1B								
R1059	A	C	2D	R4302	B	C	2C	R4854	B	C	1D	R5137	B	C	1B								
R1060	A	C	2D	R4303	B	C	2C	R4855	B	C	1D	R5138	B	C	2B								
R1061	A	C	2A	R4304	B	C	2C	R4856	B	C	1D	R6603	B	C	2D								
R1062	A	C	1C	R4305	B	C	2C	R4857	B	C	1D	R6609	B	C	2D								
R1063	A	C	1A	R4306	B	C	1C	R4858	B	C	1D	R6610	B	C	2D								
R1064	A	C	2C	R4307	B	C	2C	R4859	B	C	1D	R6612	B	C	3D								
R1065	A	C	2C	R4308	B	C	2C	R4860	B	C	1D	R6613	B	C	3D								
R1066	A	C	2D	R4309	B	C	2C	R4861	B	C	1D	R6617	B	C	3D								
R1067	A	C	2D	R4310	B	C	2C	R4862	B	C	1D	R6618	B	C	2D								
R1068	A	C	2D	R4311	B	C	2C	R4863	B	C	1D	R6621	B	C	2D								
R1069	A	C	2D	R4312	B	C	1C	R4864	B	C	1D	R6622	B	C	2D								
R1070	A	C	2C	R4313	B	C	1D	R4865	B	C	1D	R6623	B	C	3D								
R1071	A	C	1C	R4314	B	C	1D	R4866	B	C	1D	R6625	B	C	3D								

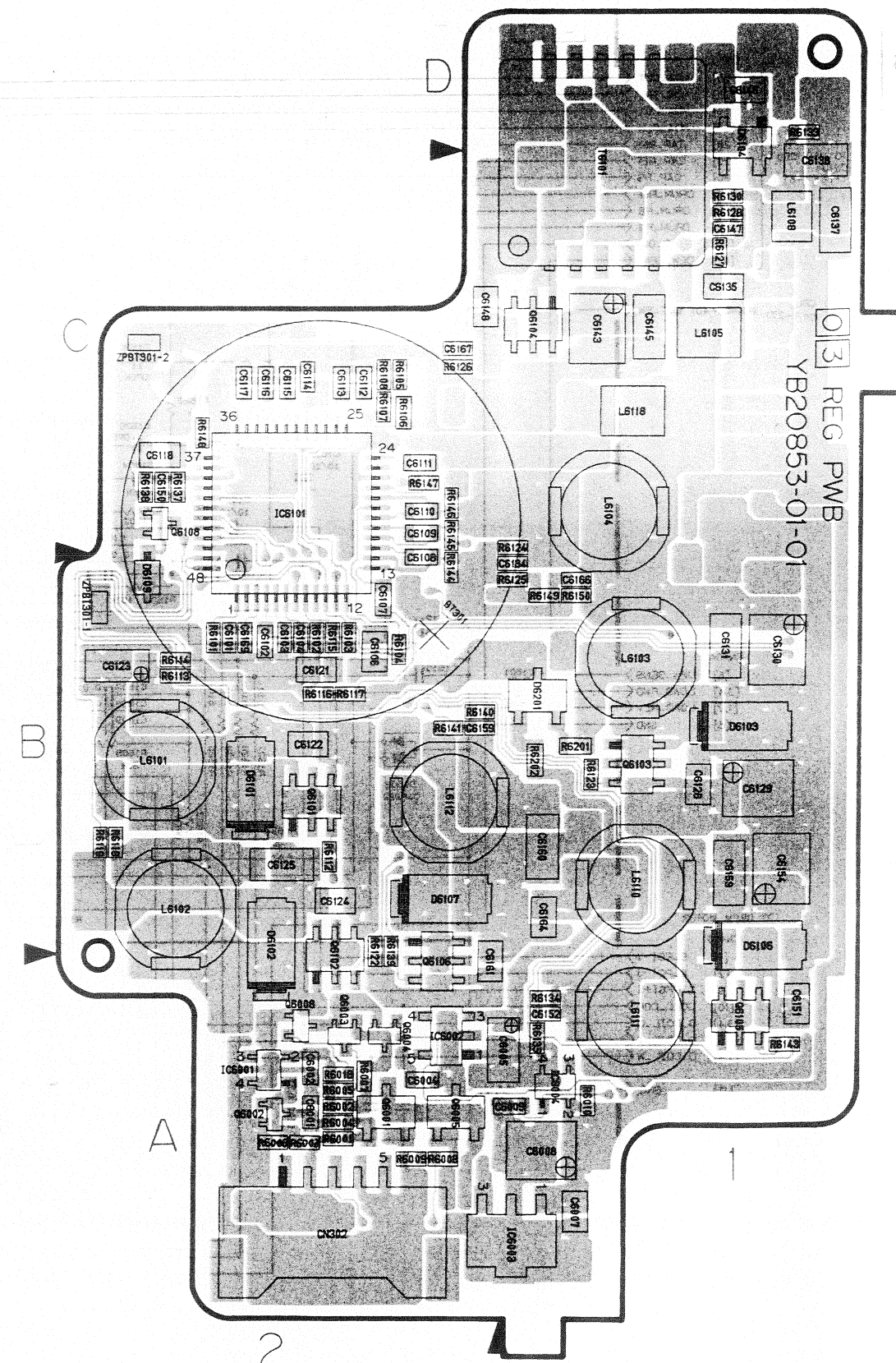




FOIL SIDE (B)



COMPONENT SIDE (A)



COMPONENT PARTS LOCATION GUIDE (REGULATOR)

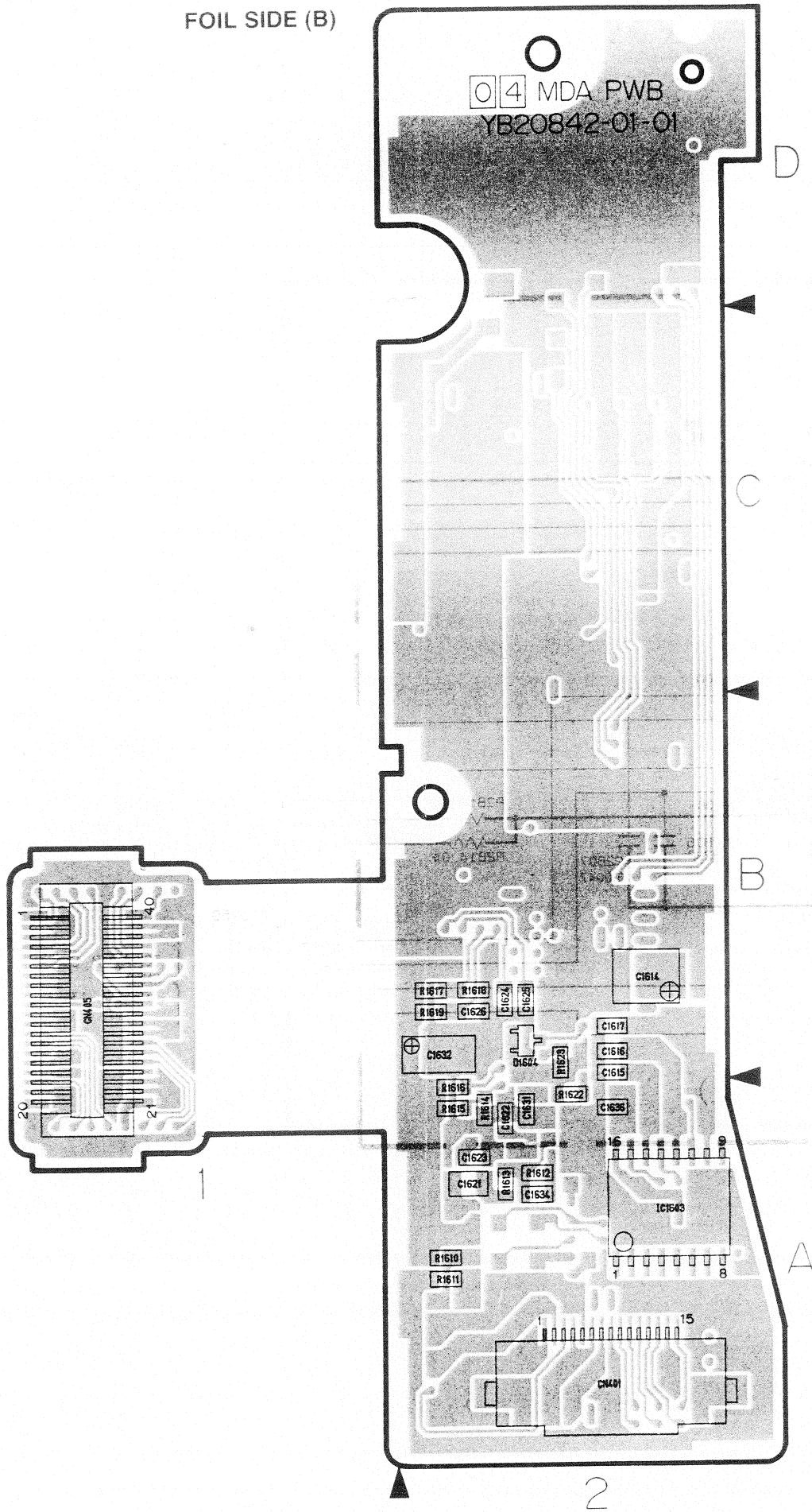
REF. No.	LOCATION			REF. No.	LOCATION		
CAPACITOR							
C6001	A	C	2A	L6114	B	C	2B
C6002	A	C	2A	L6115	B	C	1C
C6003	B	C	2A	L6116	B	C	2A
C6004	B	C	2A	L6117	B	C	2B
C6005	B	C	2A	L6118	B	C	1C
C6006	B	C	1A	L6119	B	C	2B
TRANSISTOR							
C6007	A	C	1A	Q6001	A	C	2A
C6008	A	C	1A	Q6002	A	C	2A
C6009	A	C	1A	Q6003	A	C	2A
C6010	B	C	1A	Q6004	A	C	2A
C6011	B	C	2A	Q6005	A	C	2A
C6101	A	C	2B	Q6006	A	C	2A
C6102	A	C	2B	Q6007	B	C	2A
C6103	A	C	2B	Q6008	B	C	2A
C6104	A	C	2B	Q6009	A	C	2A
C6105	B	C	2B	Q6101	A	C	2A
C6106	A	C	2B	Q6102	A	C	2A
C6107	A	C	2B	Q6103	A	C	2A
C6108	A	C	2B	Q6104	A	C	2A
C6109	A	C	2B	Q6105	A	C	2A
C6110	A	C	2C	Q6106	A	C	2A
C6111	A	C	2C	Q6107	B	C	2C
C6112	A	C	2C	Q6108	A	C	2A
C6113	A	C	2C	Q6109	B	C	1C
C6114	A	C	2C	RESISTOR			
C6115	A	C	2C	R6001	A	C	2A
C6116	A	C	2C	R6002	A	C	2A
C6117	A	C	2C	R6003	A	C	2A
C6118	A	C	2C	R6004	A	C	2A
C6119	B	C	2C	R6005	A	C	2A
C6120	B	C	2C	R6006	A	C	2A
C6121	A	C	2B	R6007	A	C	2A
C6122	A	C	2B	R6008	A	C	2A
C6123	A	C	2B	R6009	A	C	2A
C6124	A	C	2B	R6010	A	C	1A
C6125	A	C	1A	R6011	B	C	1A
C6126	B	C	1A	R6012	A	C	1A
C6127	B	C	1A	R6013	B	C	1A
C6128	A	C	1B	R6015	B	C	2A
C6129	A	C	1B	R6016	B	C	2A
C6130	A	C	1B	R6017	B	C	2A
C6131	A	C	1B	R6018	A	C	2A
C6132	B	C	1B	R6019	A	C	2A
C6133	B	C	1C	R6101	A	C	2B
C6134	A	C	1C	R6102	A	C	2B
C6135	A	C	1C	R6103	A	C	2B
C6136	B	C	1C	R6104	A	C	2B
C6137	A	C	1C	R6105	A	C	2B
C6138	A	C	1C	R6106	A	C	2B
C6139	B	C	1C	R6107	A	C	2B
C6140	B	C	1C	R6108	A	C	2B
C6141	B	C	1D	R6109	B	C	2B
C6142	B	C	1D	R6110	B	C	2B
C6143	A	C	1D	R6111	B	C	2B
C6144	B	C	1D	R6112	A	C	2B
C6145	A	C	1C	R6113	A	C	2B
C6146	A	C	1D	R6114	A	C	2B
C6147	A	C	1C	R6115	A	C	2B
C6148	A	C	2C	R6116	A	C	2B
C6149	B	C	2C	R6117	A	C	2B
C6150	A	C	2C	R6118	A	C	2B
C6151	A	C	2C	R6119	A	C	2B
C6152	A	C	1A	R6120	B	C	1
C6153	A	C	1B	R6121	B	C	1
C6154	A	C	1B	R6122	A	C	1
C6155	B	C	1D	R6123	A	C	1
C6156	B	C	1D	R6124	A	C	1
C6157	B	C	1D	R6125	A	C	1
C6158	B	C	2B	R6126	A	C	1
C6159	A	C	2B	R6127	A	C	1
C6160	A	C	1B	R6128	A	C	1
C6161	A	C	2A	R6129	B	C	1
C6162	B	C	2B	R6130	B	C	1
C6163	B	C	2B	R6131	B	C	1
C6164	A	C	1B	R6132	B	C	1
C6165	A	C	1C	R6133	A	C	1
C6166	A	C	1B	R6134	A	C	1
C6167	A	C	2C	R6135	A	C	1
C6168	B	C	2B	R6136	B	C	1
C6169	A	C	2B	R6137	A	C	2
CONNECTOR							
CN301	B	C	1B	R6138	A	C	2
CN302	A	C	2A	R6140	A	C	2
CN303	B	C	2A	R6141	A	C	2
DIODE							
D6101	A	C	2B	R6143	A	C	1
D6102	A	C	2B	R6144	A	C	1
D6103	A	C	1B	R6145	A	C	1
D6104	A	C	1D	R6146	A	C	2
D6105	B	C	1D	R6147	A	C	2
D6106	A	C	1D	R6148	A	C	2
D6107	A	C	2B	R6149	A	C	1
D6108	B	C	2B	R6150	A	C	1
D6109	A	C	2B	R6151	B	C	2
D6201	A	C	1B	R6152	B	C	2
				R6153	B	C	2
				R6201	A	C	1
				R6202	A	C	1
IC				OTHER			
IC6001	A	C	2A	BT301	A	D	2
IC6002	A	C	1A	F5101	A	B	C
IC6003	A	C	1A	F5102	A	B	C
IC6004	A	C	2C	F5103	B	B	C
IC6101	A	C	2C	F5104	A	B	C
IC6102	B	C	1A	F5105	B	B	C
				F5106	B	B	C
				T6101	A	C	1
				ZPTB301	A	A	C
				ZPTB301	A	A	C
COIL							
L6001	B	C	1A				
L6101	A	C	1B				
L6102	A	C	1B				
L6103	A	C	1B				
L6104	A	C	1C				
L6105	A	C	1C				
L6106	B	C	1D				
L6107	B	C	1C				
L6108	A	C	1C				
L6109	B	C	1C				
L6110	A	C	1B				
L6111	A	C	1A				
L6112	A	C	2B				
L6113	B	C	1B				

VOLTAGE CHART
<REGULATOR>

MODE PIN NO.	REC	PLAY	MODE PIN NO.	REC	PLAY
IC6001			O6006		
1	6.6	6.5	E	6.6	6.6
2	6.3	6.4	C	6.5	6.5
3	0	0	B	5.9	5.9
4	0	0	O6007		
IC6002			E	0	0
1	0	0	C	0	0
2	6.5	6.5	B	3.0	3.0
3	3.5	3.5	O6008		
4	0	0	E	3.8	3.7
5	0	0	C	0	0
IC6003			B	3.0	3.0
1	3.0	3.0	O6101		
2	0	0	1	2.3	2.4
3	6.5	6.6	2	2.4	2.3
IC6004			3	4.0	4
1	2.9	2.9	4	6.5	6.6
2	3.0	3.0	5	2.3	2.3
3	0	0	6	2.3	2.3
4	0	0	O6102		
IC6101			1	1.2	1.2
1	0.9	0.9	2	1.2	1.2
2	2.7	2.7	3	5.1	5.2
3	1.1	1.1	4	6.5	6.6
4	1.0	1.2	5	1.2	1.2
5	1.4	1.3	6	2.9	3.0
6	0	0	O6103		
7	1.0	1.0	1	4.8	4.8
8	0	0	2	4.8	4.8
9	0	0	3	1.6	1.7
10	0.4	0.4	4	6.5	6.5
11	0.4	0.4	5	2.5	4.8
12	2.7	2.8	6	4.8	4.8
13	1.0	1.1	O6104		
14	1.0	1.0	1	0	0
15	1.3	1.3	2	0	0
16	0	1.0	3	1.5	1.6
17	0	1.1	4	1.4	1.4
18	2.7	2.7	5	0	0
19	1.0	1.0	6	0	0
20	0	0	O6105		
21	1.0	1.0	1	2.3	2.3
22	0	0	2	2.3	2.3
23	6.6	6.6	3	4.2	4.2
24	1.0	1.0	4	6.6	6.6
25	1.3	1.3	5	2.3	2.3
26	1.3	1.3	6	2.3	2.3
27	2.9	2.9	O6106		
28	2.9	2.9	1	3.0	3.0
29	5.6	6.6	2	2.9	3.0
30	2.7	2.7	3	3.4	3.4
31	2.7	2.8	4	6.5	6.6
32	2.7	2.7	5	3.0	3.0
33	2.6	2.9	6	2.9	3.0
34	2.6	2.9	O6107		
35	2.6	2.9	E	6.5	6.5
36	0	0	C	4.0	4.1
37	2.9	2.9	B	6.1	6.2
38	3.4	3.4	O6108		
39	2.0	2.1	E	0	0
40	0	0	C	4.2	4.2
41	3.5	3.4	B	0	0
42	0	0	O6109		
43	1.7	1.6	E	14.5	14.6
44	4.1	4.3	C	15.7	15.7
45	5.2	5.2	B	15.3	15.3
46	6.6	6.6			
47	0	1.8			
48	0	1.7			
IC6102					
1	3.0	3.0			
2	6.5	6.5			
3	0	0			
4	6.0	6.0			
5	1.2	1.2			
O6001					
G	0	0			
D	6.5	6.6			
S	6.5	6.6			
O6002					
G	0	0			
D	0	0			
S	6.5	6.5			
O6003					
G	0	0			
D	6.2	6.3			
S	0	0			
O6004					
E	0	0			
C	0	0			



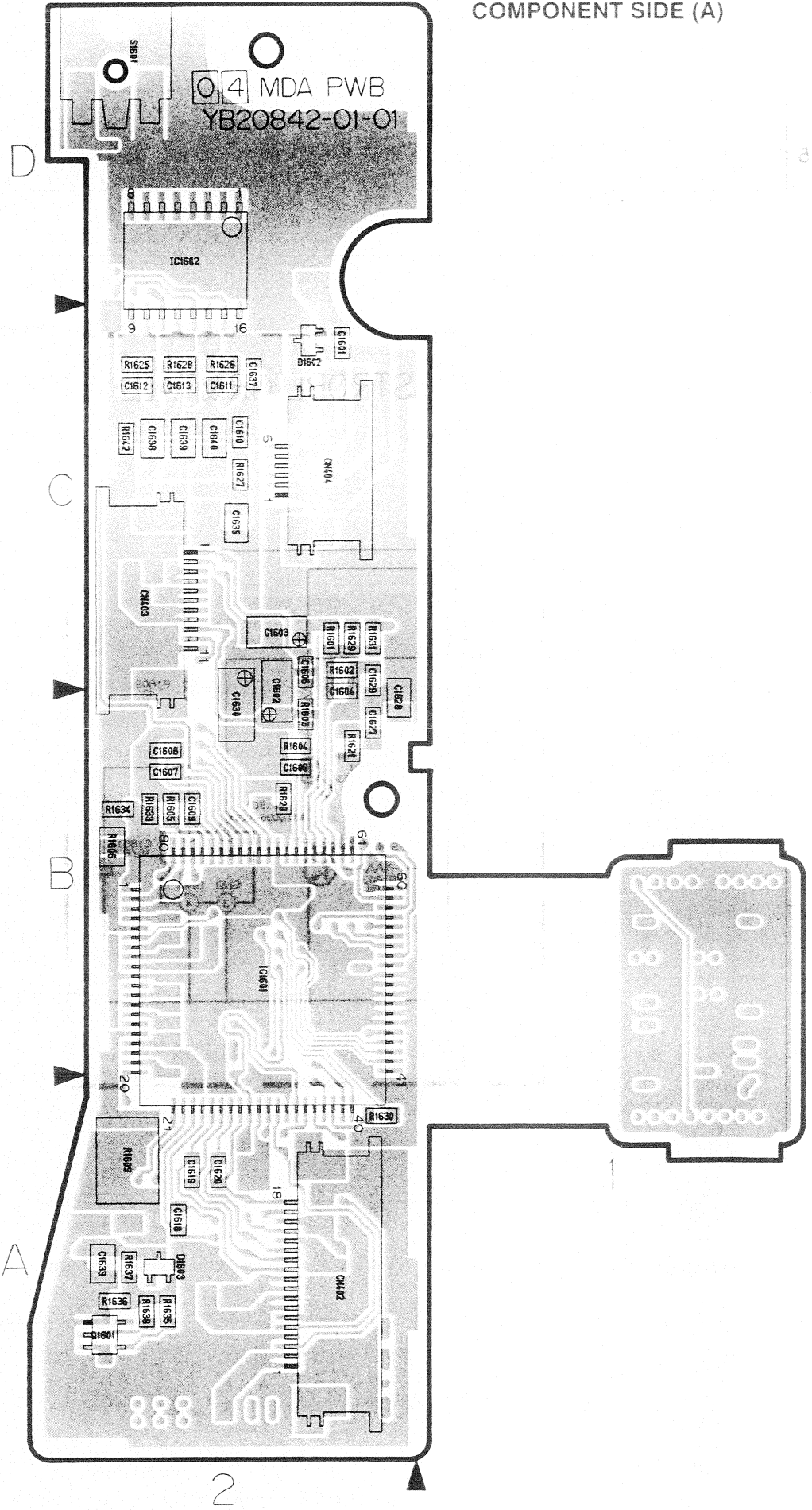
FOIL SIDE (B)



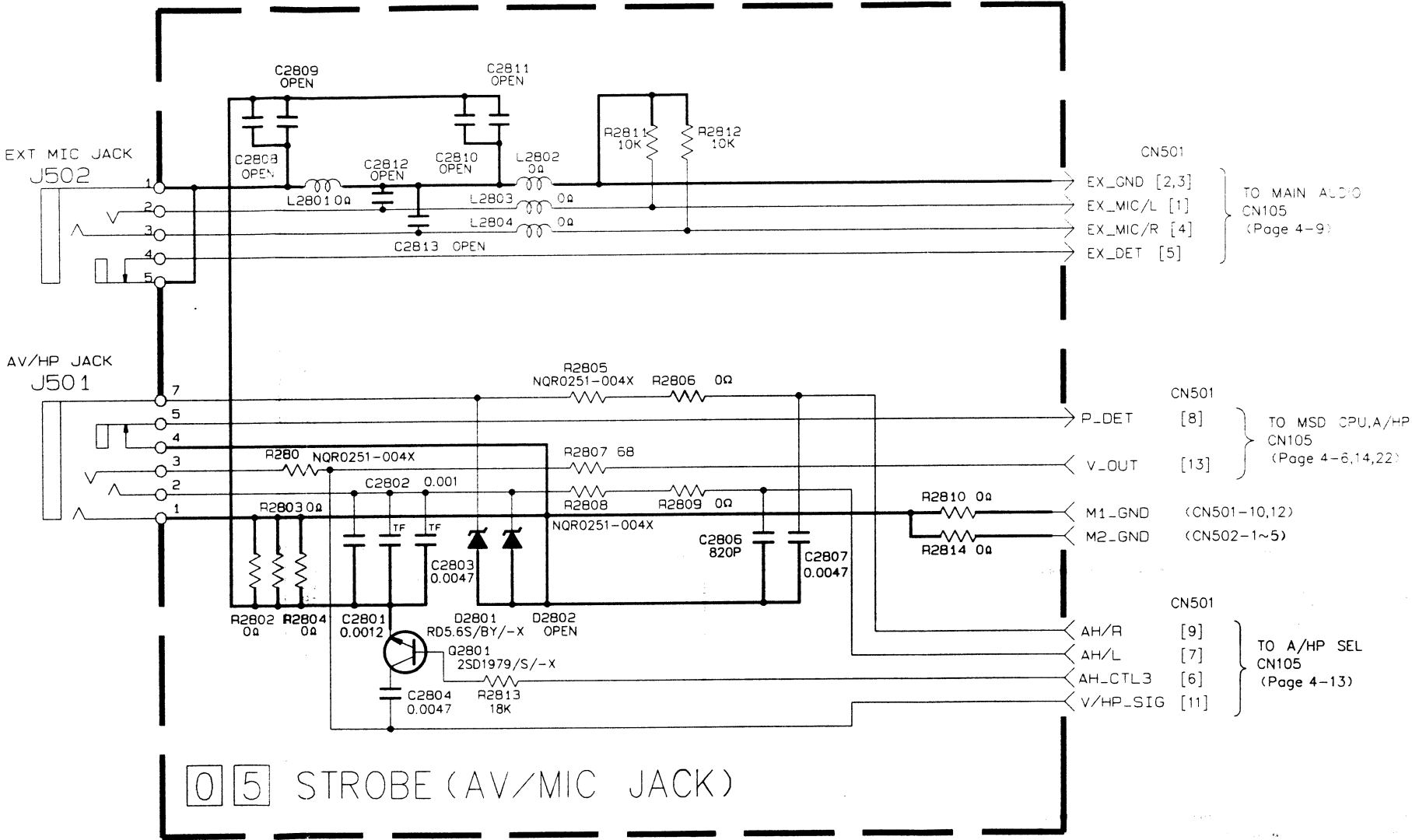
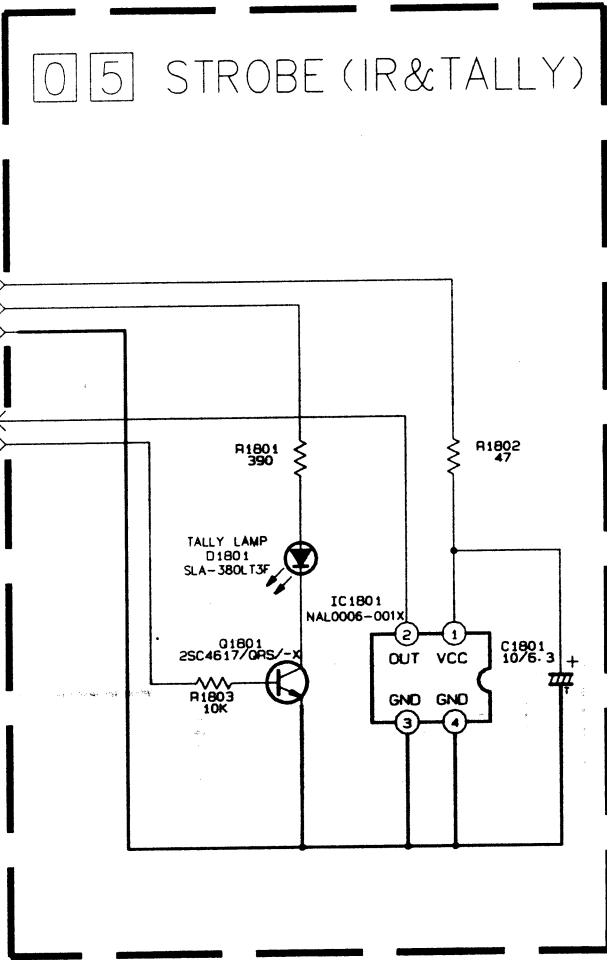
COMPONENT PARTS LOCATION GUIDE (MDA)

REF.No.	LOCATION	REF.No.	LOCATION
CAPACITOR			
C1601	A C 2C	IC1602	A C 2D
C1602	A C 2C	IC1603	B C 2A
C1603	A C 2C	TRANSISTOR	
C1604	A C 2C	Q1601	A C 2A
C1605	A C 2C	RESISTOR	
C1606	A C 2B	R1601	A C 2C
C1607	A C 2B	R1602	A C 2C
C1608	A C 2B	R1603	A C 2B
C1609	A C 2B	R1604	A C 2B
C1610	A C 2C	R1605	A C 2B
C1611	A C 2C	R1606	A C 2B
C1612	A C 2C	R1609	A C 2A
C1613	A C 2C	R1610	B C 2A
C1614	B C 2B	R1611	B C 2A
C1615	B C 2B	R1612	B C 2A
C1616	B C 2B	R1613	B C 2A
C1617	B C 2B	R1614	B C 2A
C1618	A C 2A	R1615	B C 2A
C1619	A C 2A	R1616	B C 2A
C1620	A C 2A	R1617	B C 2B
C1621	B C 2A	R1618	B C 2B
C1622	B C 2A	R1619	B C 2B
C1623	B C 2A	R1620	A C 2B
C1624	B C 2B	R1621	A C 2B
C1625	B C 2B	R1622	B C 2A
C1626	B C 2B	R1623	B C 2B
C1627	A C 2B	R1625	A C 2C
C1628	A C 2B	R1626	A C 2C
C1629	A C 2C	R1627	A C 2C
C1630	A C 2B	R1628	A C 2C
C1631	B C 2A	R1629	A C 2C
C1632	B C 2B	R1630	A C 2A
C1633	A C 2A	R1631	A C 2C
C1634	B C 2A	R1633	A C 2B
C1635	A C 2C	R1634	A C 2B
C1636	B C 2A	R1635	A C 2A
C1637	A C 2C	R1636	A C 2A
C1638	A C 2C	R1637	A C 2A
C1639	A C 2C	R1638	A C 2A
C1640	A C 2C	R1642	A C 2C
CONNECTOR			
CN401	B C 2A	OTHER	
CN402	A C 2A	S1601	A C 2D
CN403	A C 2C		
CN404	A C 2C		
CN405	B C 1B		
DIODE			
D1602	A C 2C		
D1603	A C 2A		
D1604	B C 2B		
IC			
IC1601	A C 2B		

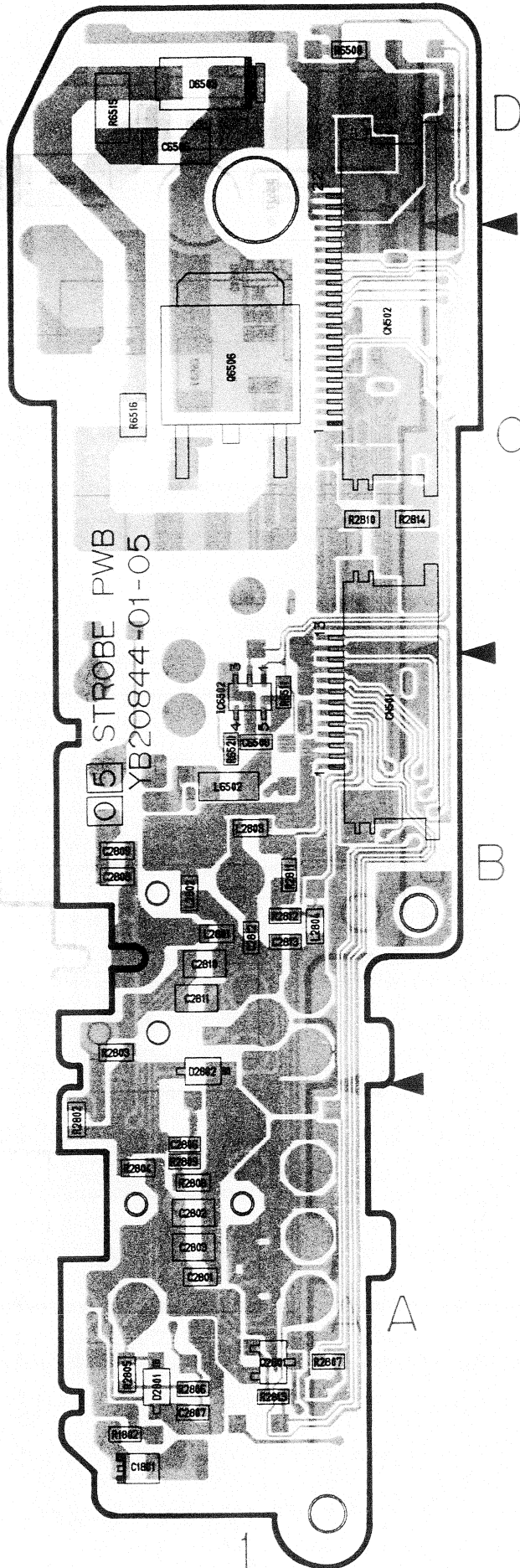
COMPONENT SIDE (A)



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4.25 STROBE CIRCUIT BOARD
FOIL SIDE (B)



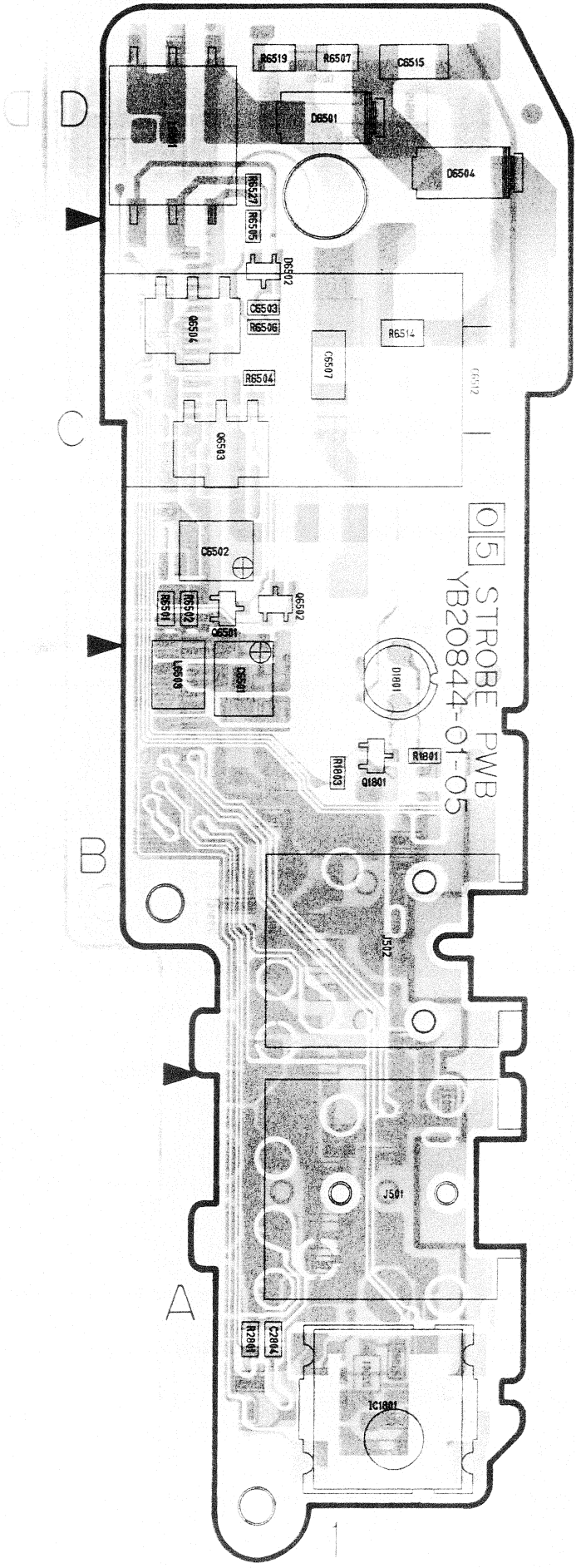
COMPONENT PARTS LOCATION
GUIDE (STROBE)

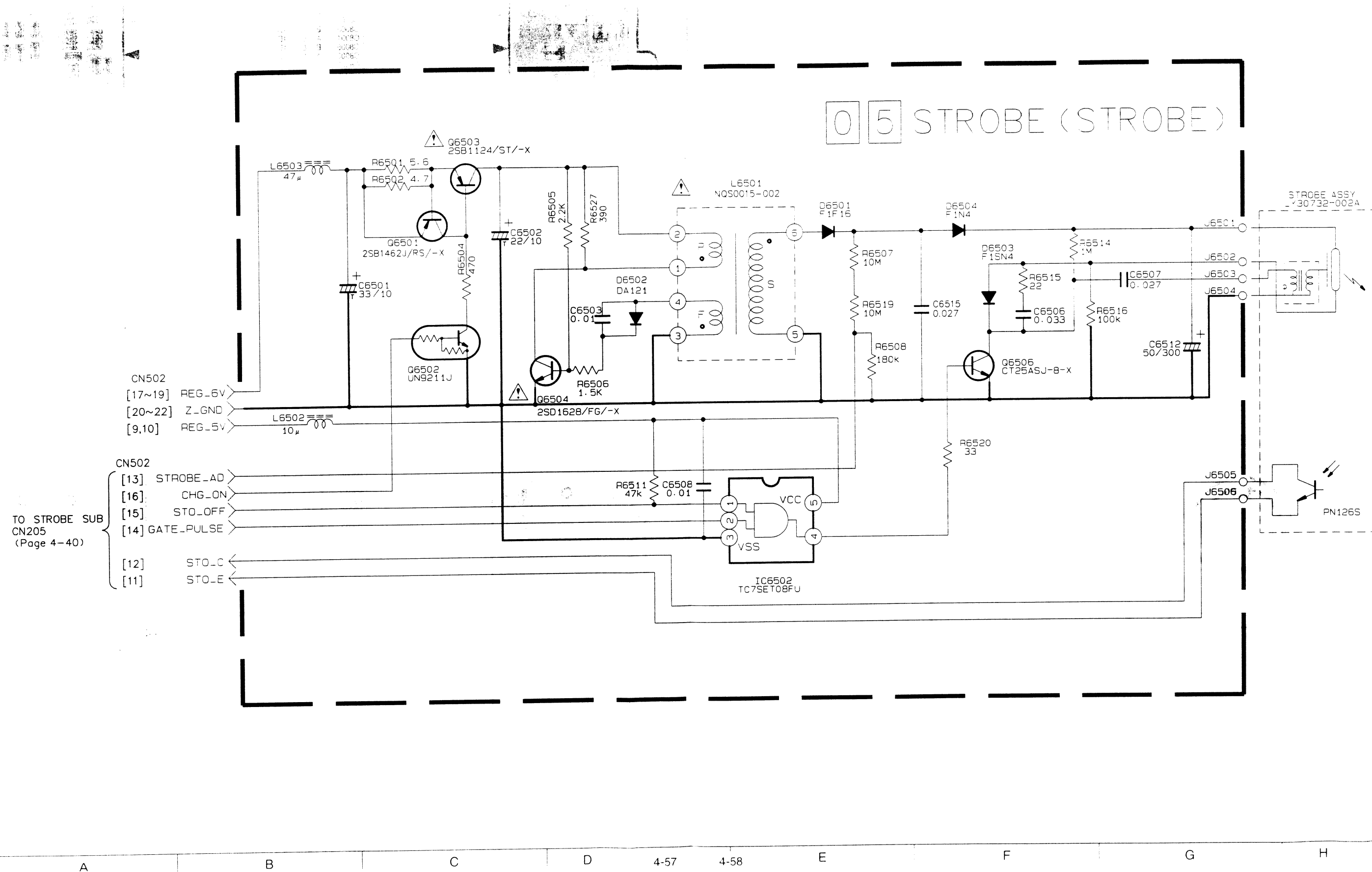
REF.No.		LOCATION		REF.No.	LOCATION		
CAPACITOR				R2811	B	C	1B
C1801	B	C	1A	R2812	B	C	1B
C2801	B	C	1A	R2813	B	C	1A
C2802	B	C	1A	R2814	B	C	1C
C2803	B	C	1A	R6501	A	C	1C
C2804	A	C	1A	R6502	A	C	1C
C2806	B	C	1A	R6504	A	C	1C
C2807	B	C	1A	R6505	A	C	1C
C2808	B	C	1B	R6506	A	C	1C
C2809	B	C	1B	R6507	A	C	1D
C2810	B	C	1B	R6508	B	C	1D
C2811	B	C	1B	R6511	B	C	1B
C2812	B	C	1B	R6514	A	C	1C
C2813	B	C	1B	R6515	B	C	1D
C6501	A	C	1B	R6516	B	C	1C
C6502	A	C	1C	R6519	A	C	1D
C6503	A	C	1C	R6520	B	C	1B
C6506	B	C	1D	R6527	A	C	1D
C6507	A	C	1C	OTHER			
C6508	B	C	1B	J501	A	D	1A
C6512	A	D	1C	J502	A	D	1B
C6515	A	C	1D				
CONNECTOR							
CN501	B	C	1B				
CN502	B	C	1C				
DIODE							
D1801	A	C	1B				
D2801	B	C	1A				
D2802	B	C	1B				
D6501	A	C	1D				
D6502	A	C	1C				
D6503	B	C	1D				
D6504	A	C	1D				
IC							
IC1801	A	C	1A				
IC6502	B	C	1B				
COIL							
L2801	B	C	1B				
L2802	B	C	1B				
L2803	B	C	1B				
L2804	B	C	1B				
L6501	A	C	1D				
L6502	B	C	1B				
L6503	A	C	1B				
TRANSISTOR							
Q1801	A	C	1B				
Q2801	B	C	1A				
Q6501	A	C	1C				
Q6502	A	C	1C				
Q6503	A	C	1C				
Q6504	A	C	1C				
Q6506	B	C	1C				
RESISTOR							
R1801	A	C	1B				
R1802	B	C	1A				
R1803	A	C	1B				
R2801	A	C	1A				
R2802	B	C	1A				
R2803	B	C	1B				
R2804	B	C	1A				
R2805	B	C	1A				
R2806	B	C	1A				
R2807	B	C	1A				
R2808	B	C	1A				
R2809	B	C	1A				
R2810	B	C	1C				

COMPONENT PARTS LOCATION
GUIDE (STROBE)

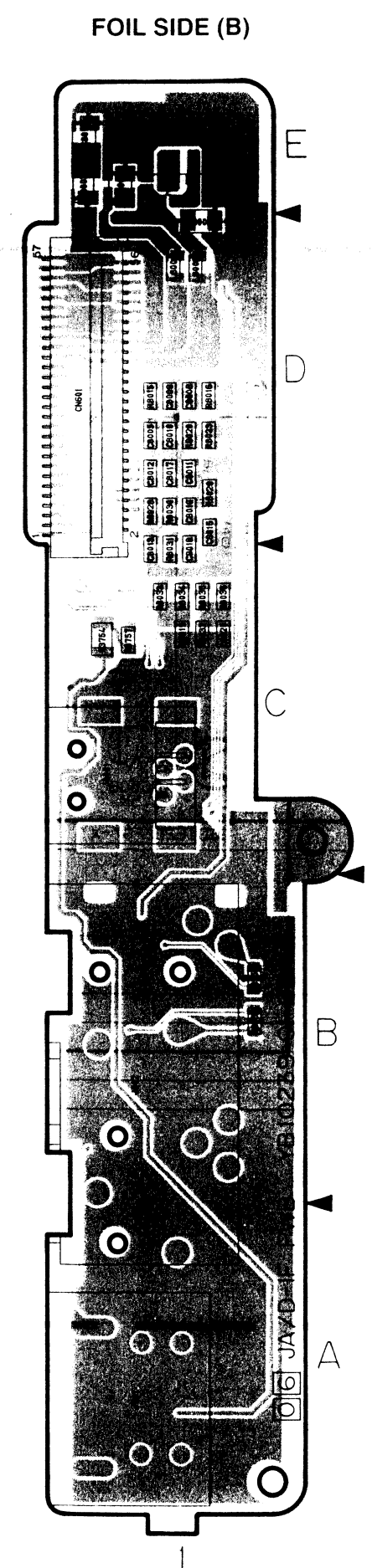
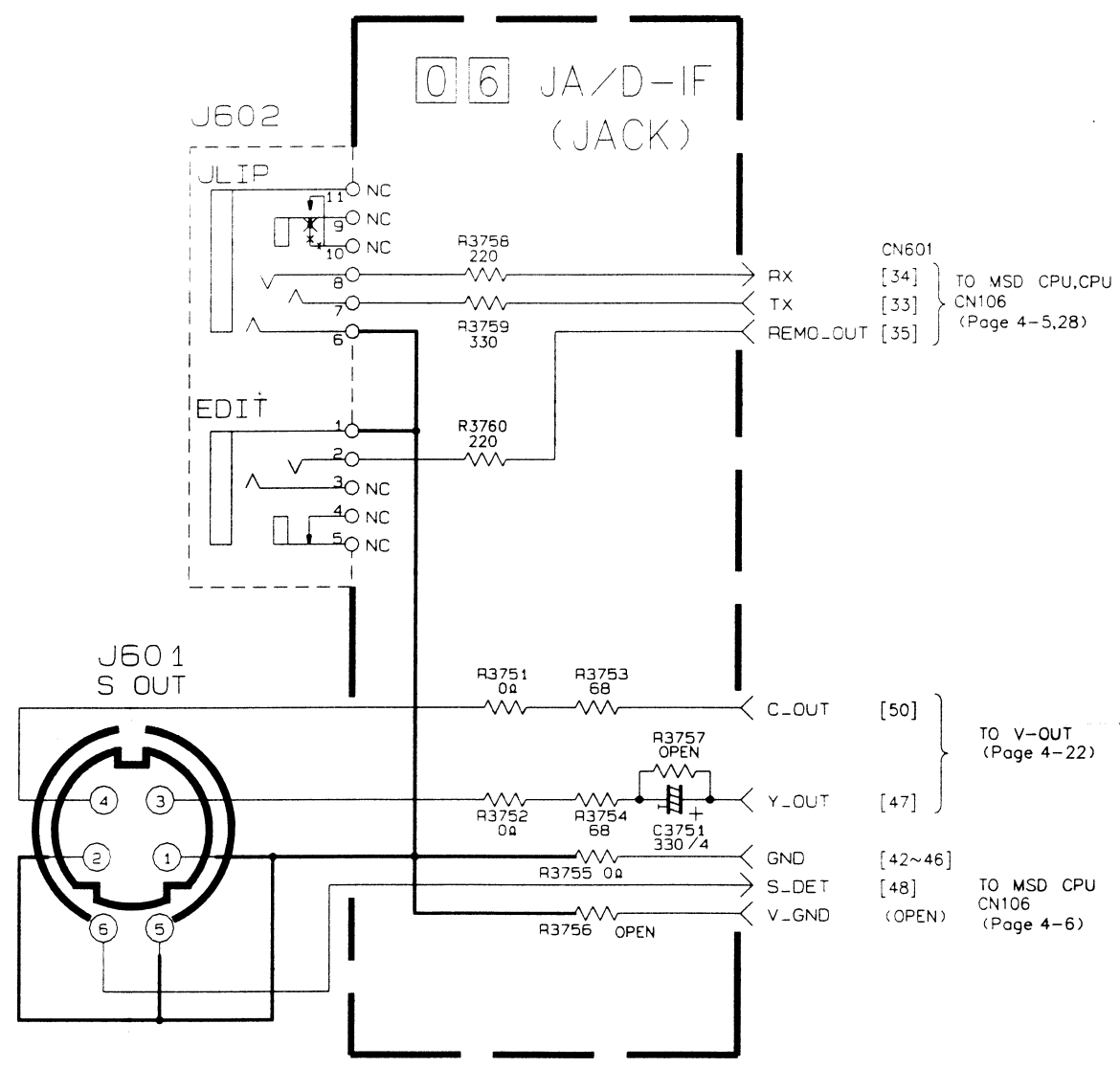
REF.No.				LOCATION				REF.No.				LOCATION							
CAPACITOR								R2811				B C 1B							
C1801	B	C	1A	R2812				B	C	1B	R2812				B	C	1B		
C2801	B	C	1A	R2813				B	C	1A	R2813				B	C	1A		
C2802	B	C	1A	R2814				B	C	1C	R2814				B	C	1C		
C2803	B	C	1A	R6501				A	C	1C	R6501				A	C	1C		
C2804	A	C	1A	R6502				A	C	1C	R6502				A	C	1C		
C2806	B	C	1A	R6504				A	C	1C	R6504				A	C	1C		
C2807	B	C	1A	R6505				A	C	1C	R6505				A	C	1C		
C2808	B	C	1B	R6506				A	C	1C	R6506				A	C	1C		
C2809	B	C	1B	R6507				A	C	1D	R6507				A	C	1D		
C2810	B	C	1B	R6508				B	C	1D	R6508				B	C	1D		
C2811	B	C	1B	R6511				B	C	1B	R6511				B	C	1B		
C2812	B	C	1B	R6514				A	C	1C	R6514				A	C	1C		
C2813	B	C	1B	R6515				B	C	1D	R6515				B	C	1D		
C6501	A	C	1B	R6516				B	C	1C	R6516				B	C	1C		
C6502	A	C	1C	R6519				A	C	1D	R6519				A	C	1D		
C6503	A	C	1C	R6520				B	C	1B	R6520				B	C	1B		
C6506	B	C	1D	R6527				A	C	1D	R6527				A	C	1D		
C6507	A	C	1C	OTHER															
C6508	B	C	1B																
C6512	A	D	1C	J501				A	D	1A	J501				A	D	1A		
C6515	A	C	1D	J502				A	D	1B	J502				A	D	1B		
CONNECTOR																			
CN501	B	C	1B																
CN502	B	C	1C																
DIODE																			
D1801	A	C	1B																
D2801	B	C	1A																
D2802	B	C	1B																
D6501	A	C	1D																
D6502	A	C	1C																
D6503	B	C	1D																
D6504	A	C	1D																
IC																			
IC1801	A	C	1A																
IC6502	B	C	1B																
COIL																			
L2801	B	C	1B																
L2802	B	C	1B																
L2803	B	C	1B																
L2804	B	C	1B																
L6501	A	C	1D																
L6502	B	C	1B																
L6503	A	C	1B																
TRANSISTOR																			
Q1801	A	C	1B																
Q2801	B	C	1A																
Q6501	A	C	1C																
Q6502	A	C	1C																
Q6503	A	C	1C																
Q6504	A	C	1C																
Q6506	B	C	1C																
RESISTOR																			
R1801	A	C	1B																
R1802	B	C	1A																
R1803	A	C	1B																
R2801	A	C	1A																
R2802	B	C	1A																
R2803	B	C	1B																
R2804	B	C	1A																
R2805	B	C	1A																
R2806	B	C	1A																
R2807	B	C	1A																
R2808	B	C	1A																
R2809	B	C	1A																
R2810	B	C	1C																

COMPONENT SIDE (A)



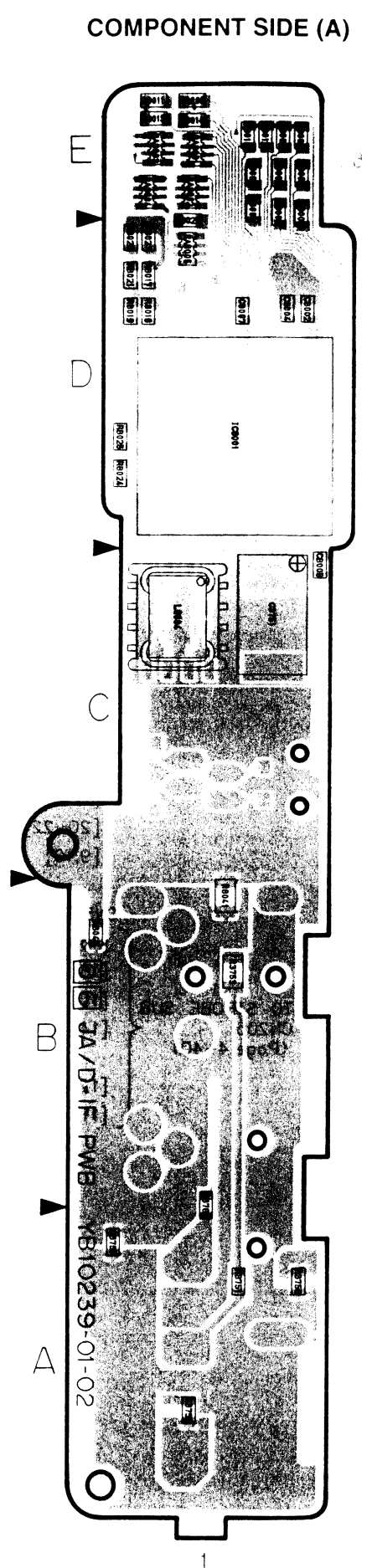


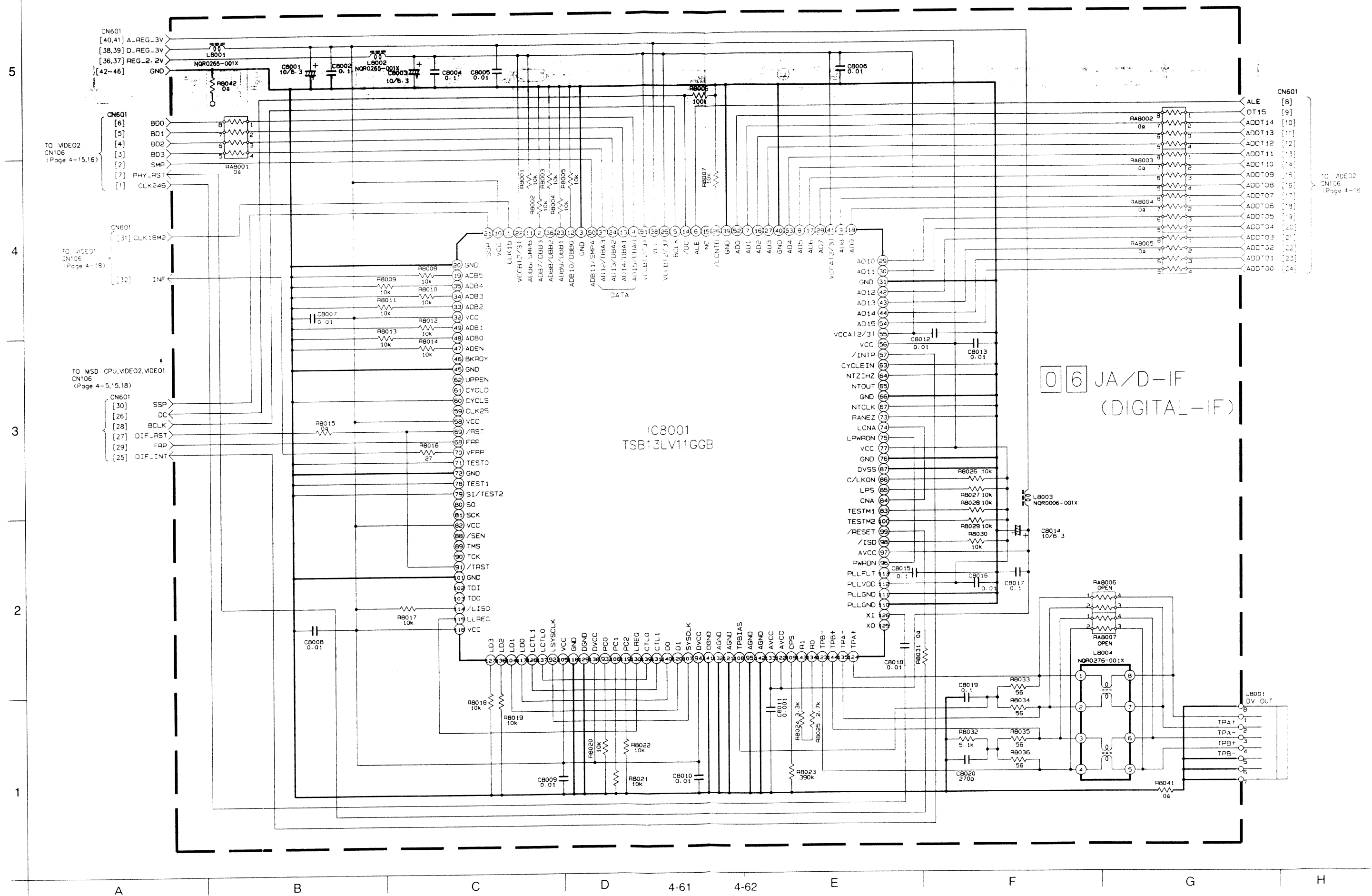
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COMPONENT PARTS
LOCATION
GUIDE (JA/D-IF)

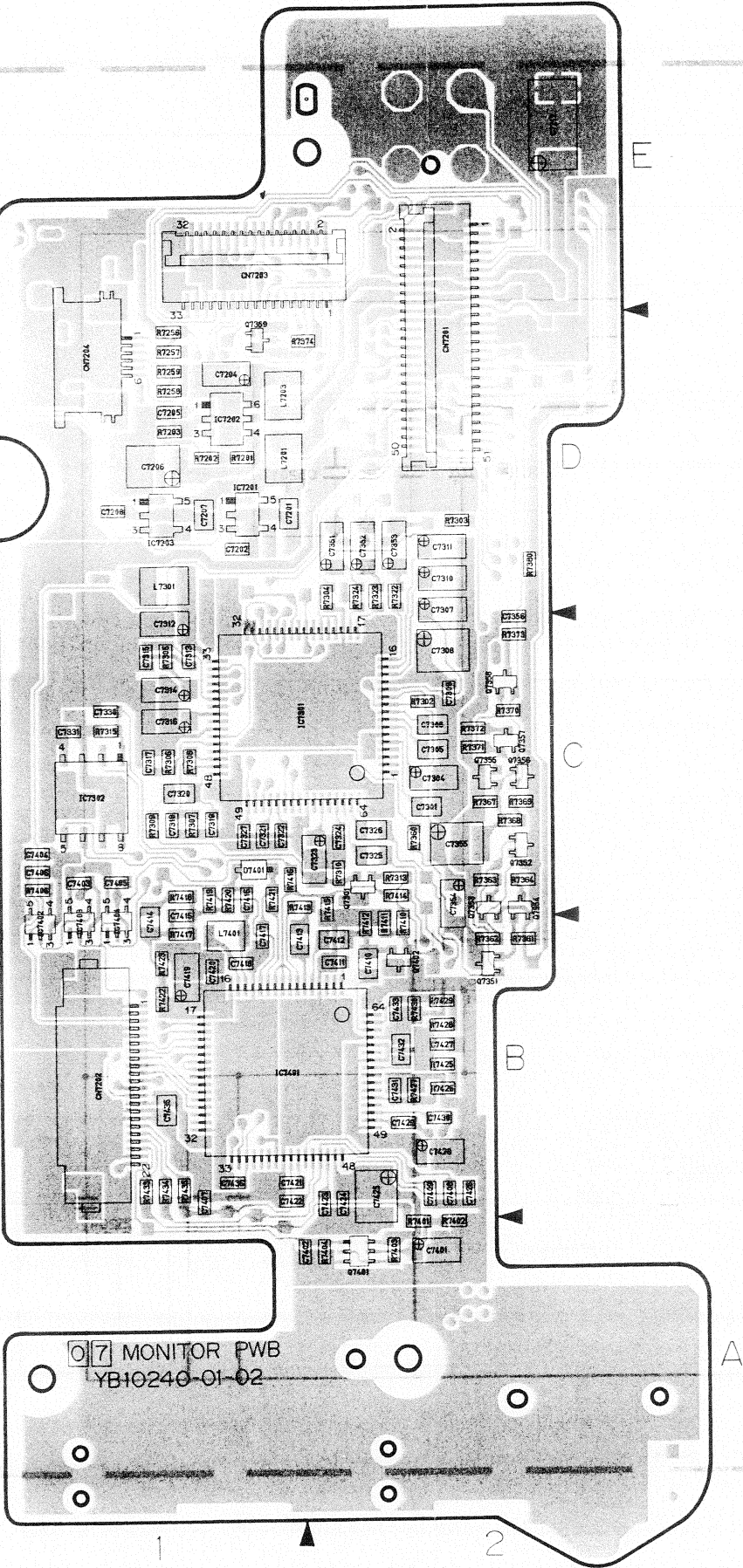
REF.No.	LOCATION
CAPACITOR	
C3751	A C 1C
C8001	B C 1E
C8002	A C 1D
C8003	B C 1D
C8004	A C 1D
C8005	B C 1D
C8006	A C 1C
C8007	A C 1D
C8008	B C 1D
C8009	B C 1D
C8010	B C 1D
C8011	B C 1D
C8012	B C 1D
C8013	B C 1C
C8014	B C 1E
C8015	B C 1D
C8016	B C 1D
C8017	B C 1D
C8018	B C 1C
C8019	B C 1C
C8020	B C 1C
CONNECTOR	
CN601	B C 1D
CN602	B C 1E
IC	
IC8001	A C 1D
COIL	
L8001	B C 1D
L8002	B C 1D
L8003	B C 1E
L8004	A C 1C
RESISTOR	
R3751	A C 1A
R3752	A C 1A
R3753	A C 1B
R3754	B C 1C
R3755	A C 1A
R3756	A C 1A
R3757	B C 1C
R3758	B C 1B
R3759	B C 1B
R3760	A C 1B
R8001	A C 1E
R8002	A C 1E
R8003	A C 1E
R8004	A C 1E
R8005	A C 1E
R8006	A C 1E
R8007	A C 1E
R8008	A C 1E
R8009	A C 1E
R8010	A C 1E
R8011	A C 1E
R8012	A C 1E
R8013	A C 1E
R8014	A C 1E
R8015	B C 1D
R8016	B C 1D
R8017	A C 1D
R8018	A C 1D
R8019	A C 1D
R8020	B C 1D
R8021	A C 1D
R8022	A C 1D
R8023	B C 1D
R8024	A C 1D
R8025	A C 1D
R8026	A C 1D
R8027	A C 1D
R8028	B C 1D
R8029	B C 1D
R8030	B C 1D
R8031	B C 1C
R8032	B C 1C
R8033	B C 1C
R8034	B C 1C
R8035	B C 1C
R8036	B C 1C
R8041	A C 1B
R8042	A C 1B
RA8001	A C 1E
RA8002	A C 1E
RA8003	A C 1E
RA8004	A C 1E
RA8005	A C 1D
RA8006	A C 1C
RA8007	A C 1C
OTHER	
J601	B D 1A
J602	B D 1B
J8001	B D 1C







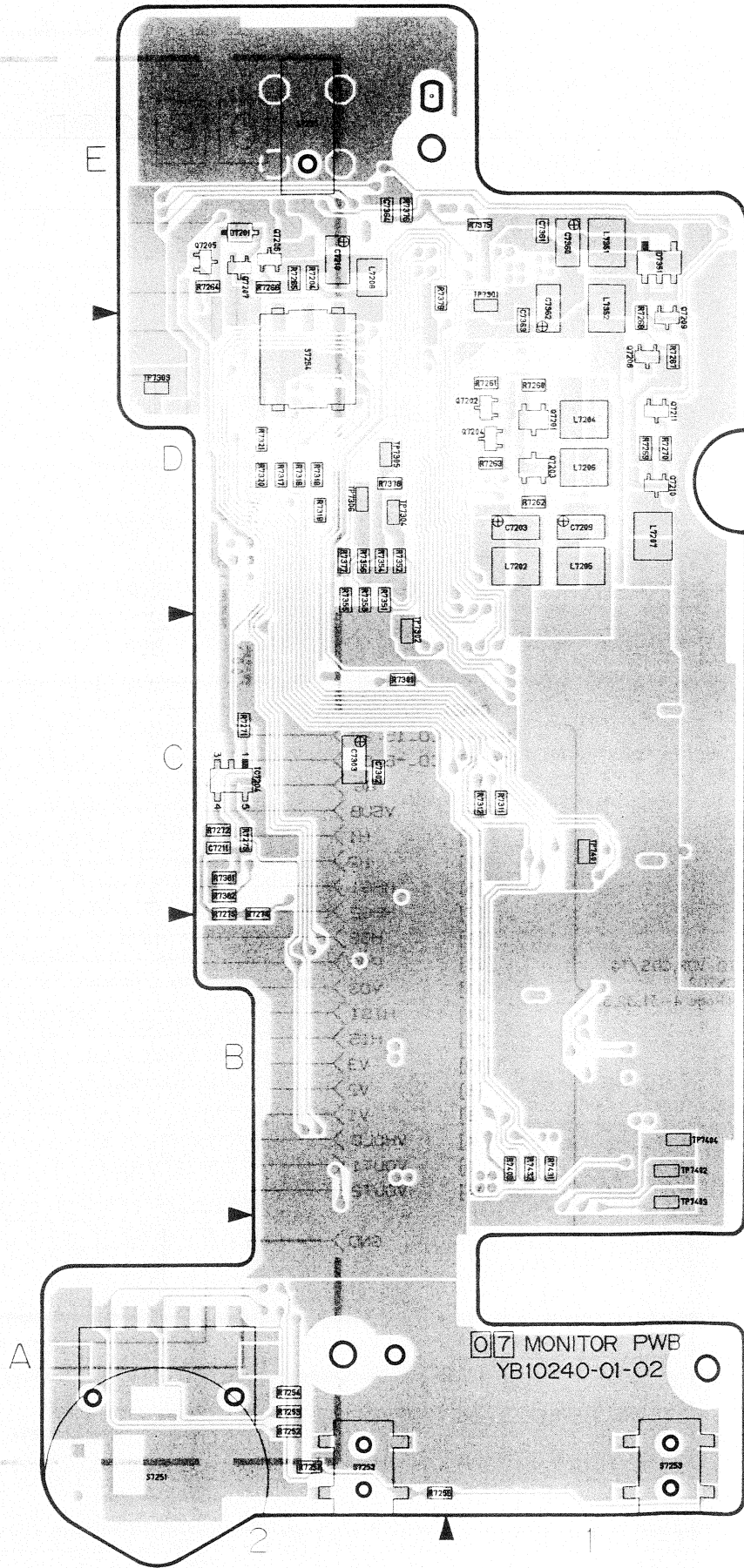
FOIL SIDE (B)

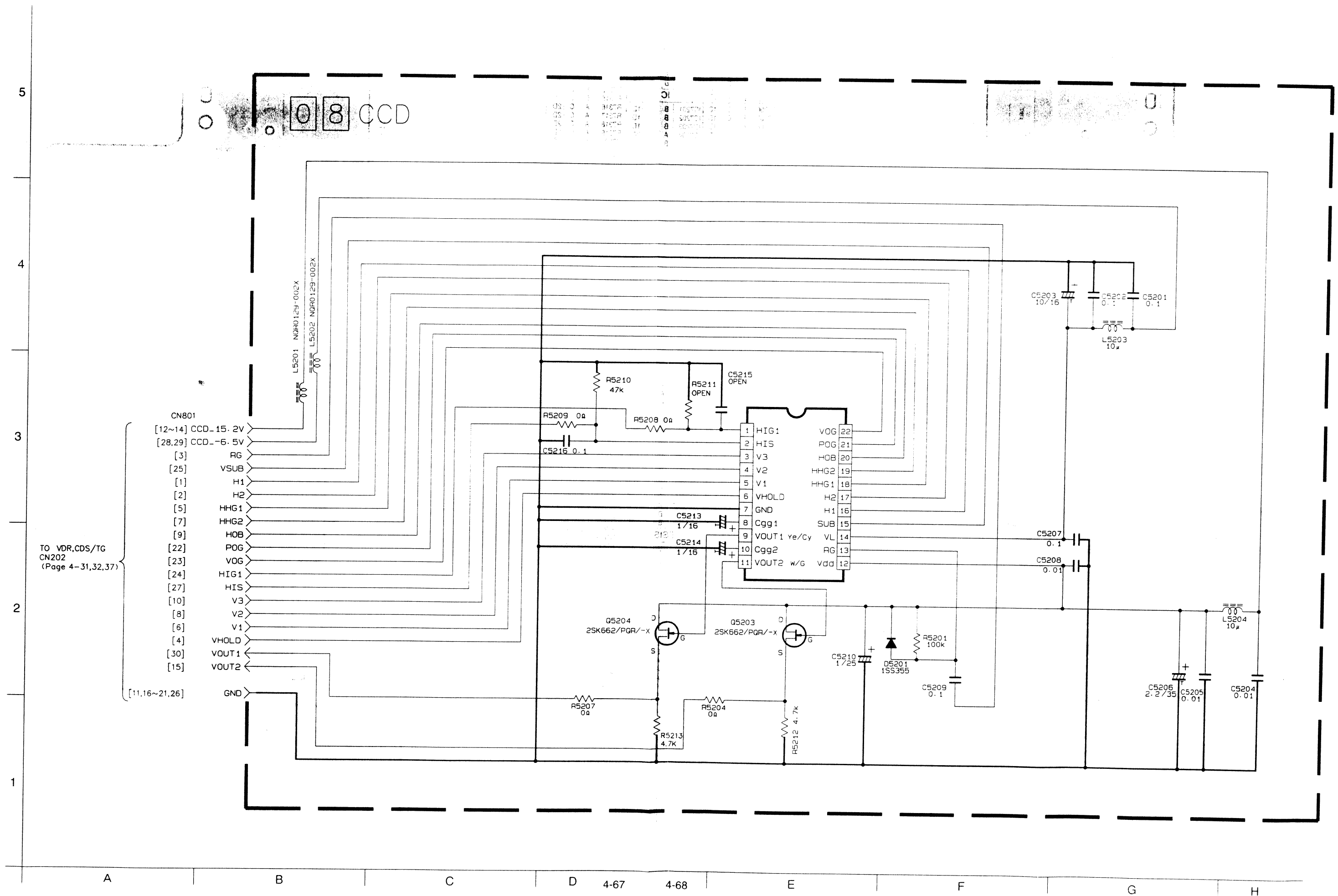


COMPONENT PARTS LOCATION GUIDE (MONITOR)

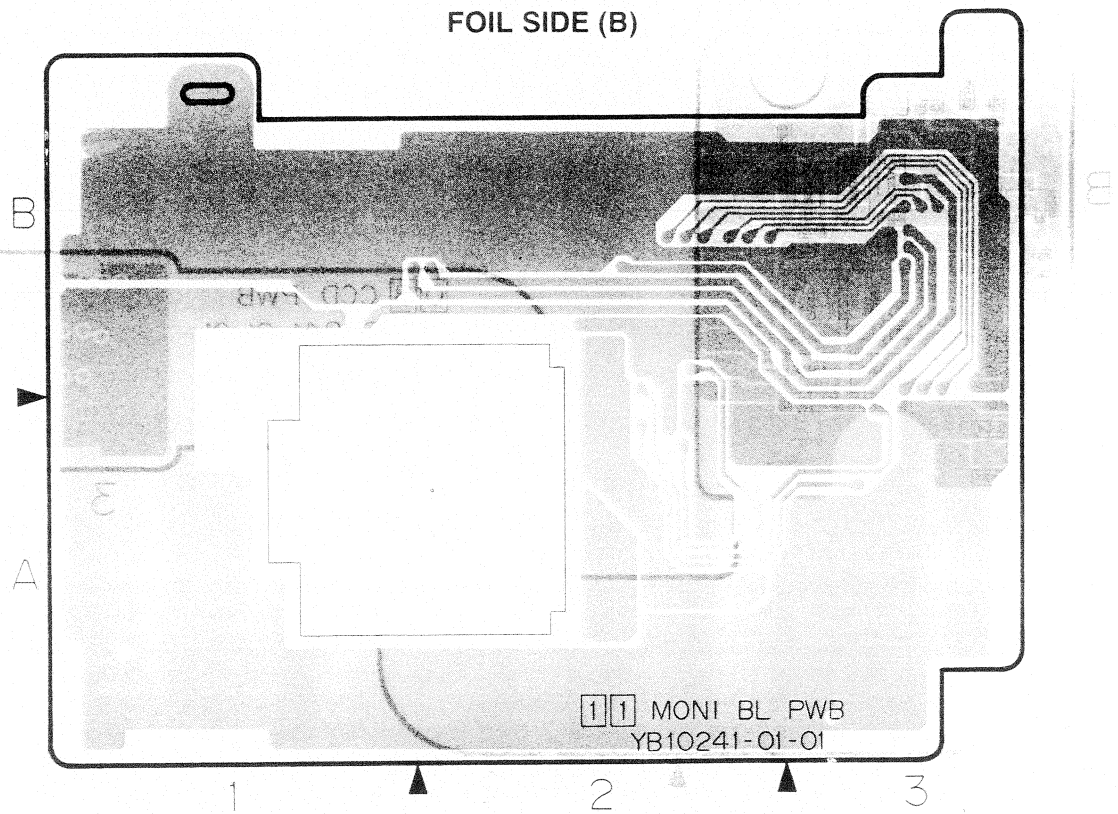
REF.No.	LOCATION	REF.No.	LOCATION	REF.No.	LOCATION
CAPACITOR		DIODE		TEST POINT	
C7201	B C 1D	D7201	A C 1D	TP7301	A C 1E
C7202	B C 1D	D7351	A C 1E	TP7302	A C 2C
C7203	A C 1D	D7401	B C 1C	TP7303	A C 2D
C7204	B C 1D	IC		TP7304	A C 2D
C7205	B C 1D	IC7201	B C 1D	TP7305	A C 2D
C7206	B C 1D	IC7202	B C 1D	TP7306	A C 2D
C7207	B C 1D	IC7203	B C 1D	TP7401	A C 1C
C7208	B C 1D	IC7204	A C 2C	TP7402	A C 1B
C7209	A C 1D	IC7301	B C 2C	TP7403	A C 1B
C7210	A C 2E	IC7302	B C 1C	TP7404	A C 1B
C7211	A C 2C	IC7401	B C 1B	OTHER	
C7212	B C 2C	IC7402	B C 1C	S7251	A D 2A
C7301	A C 2C	IC7403	B C 1C	S7252	A C 2A
C7302	A C 2C	IC7404	B C 1C	S7253	A C 1A
C7303	A C 2C	COIL		S7254	A C 2D
C7304	B C 2C	L7201	B C 1D	S7255	A D 2E
C7305	B C 2C	L7202	A C 1D	CONNECTOR	
C7306	B C 2C	L7203	B C 1D	CN7201	B C 2E
C7307	B C 2C	L7204	A C 1D	CN7202	B C 1B
C7308	B C 2C	L7205	A C 1D	CN7203	B C 2E
C7309	B C 2D	L7206	A C 1D	CN7204	B C 1D
C7310	B C 2D	L7207	A C 1D		
C7311	B C 2D	L7208	A C 2E		
C7312	B C 2D	L7301	B C 1D		
C7313	B C 2D	L7351	A C 1E		
C7314	B C 2D	L7352	A C 1E		
C7315	B C 2D	L7401	B C 1B		
C7316	B C 2D	TRANSISTOR			
C7317	B C 2D	Q7201	A C 1D		
C7318	B C 2D	Q7202	A C 1D		
C7319	B C 2D	Q7203	A C 1D		
C7320	B C 2D	Q7204	A C 1D		
C7321	B C 2D	Q7205	A C 2E		
C7322	B C 2D	Q7206	A C 2E		
C7323	B C 2D	Q7207	A C 2E		
C7324	B C 2D	Q7208	A C 1D		
C7325	B C 2D	Q7209	A C 1D		
C7326	B C 2D	Q7210	A C 1D		
C7327	B C 2D	Q7211	A C 1D		
C7328	B C 2D	Q7301	B C 2C		
C7329	B C 2D	Q7351	B C 2B		
C7330	B C 2D	Q7352	B C 2C		
C7331	B C 2D	Q7353	B C 2C		
C7332	B C 2D	Q7354	B C 2C		
C7333	B C 2D	Q7355	B C 2C		
C7334	B C 2D	Q7356	B C 2C		
C7335	B C 2D	Q7357	B C 2C		
C7336	B C 2D	Q7358	B C 2C		
C7337	B C 2D	Q7359	B C 1D		
C7338	B C 2D	Q7401	B C 2A		
C7339	B C 2D	Q7402	B C 2A		
C7340	B C 2D	Q7403	B C 2A		
C7341	B C 2D	Q7404	B C 2A		
C7342	B C 2D	Q7405	A C 1B		
C7343	B C 2D	Q7406	B C 1C		
C7344	B C 2D	Q7407	B C 2B		
C7345	B C 2D	Q7408	B C 2B		
C7346	B C 2D	Q7409	B C 2B		
C7347	B C 2D	Q7410	B C 2B		
C7348	B C 2D	Q7411	B C 2B		
C7349	B C 2D	Q7412	B C 2B		
C7350	B C 2D	Q7413	B C 1C		
C7351	B C 2D	Q7414	B C 2C		
C7352	B C 2D	Q7415	B C 2C		
C7353	B C 2D	Q7416	B C 1C		
C7354	B C 2D	Q7417	B C 1B		
C7355	B C 2D	Q7418	B C 1C		
C7356	B C 2D	Q7419	B C 1C		
C7357	B C 2D	Q7420	B C 1C		
C7358	B C 2D	Q7421	B C 1C		
C7359	B C 2D	Q7422	B C 1B		
C7360	B C 2D	Q7423	B C 1B		
C7361	B C 2D	Q7424	B C 1B		
C7362	B C 2D	Q7425	B C 1B		
C7363	B C 2D	Q7426	B C 1B		
C7364	B C 2D	Q7427	B C 1B		
C7365	B C 2D	Q7428	B C 1B		
C7366	B C 2D	Q7429	B C 1B		
C7367	B C 2D	Q7430	B C 1B		
C7368	B C 2D	Q7431	A C 1B		
C7369	B C 2D	Q7432	A C 1B		
C7370	B C 2D	Q7433	B C 1B		
C7371	B C 2D	Q7434	B C 1B		
C7372	B C 2D	Q7435	B C 1B		
C7373	B C 2D				
C7374	B C 2D				
C7375	B C 2D				
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C7377	B C 2D				
C7378	B C 2D				
C7379	B C 2D				
C7380	B C 2D				
C7381	B C 2D				
C7382	B C 2D				
C7383	B C 2D				
C7384	B C 2D				
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C7387	B C 2D				
C7388	B C 2D				
C7389	B C 2D				
C7390	B C 2D				
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C7392	B C 2D				
C7393	B C 2D				
C7394	B C 2D				
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C7397	B C 2D				
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C7400	B C 2D				
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C7402	B C 2D				
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COMPONENT SIDE (A)



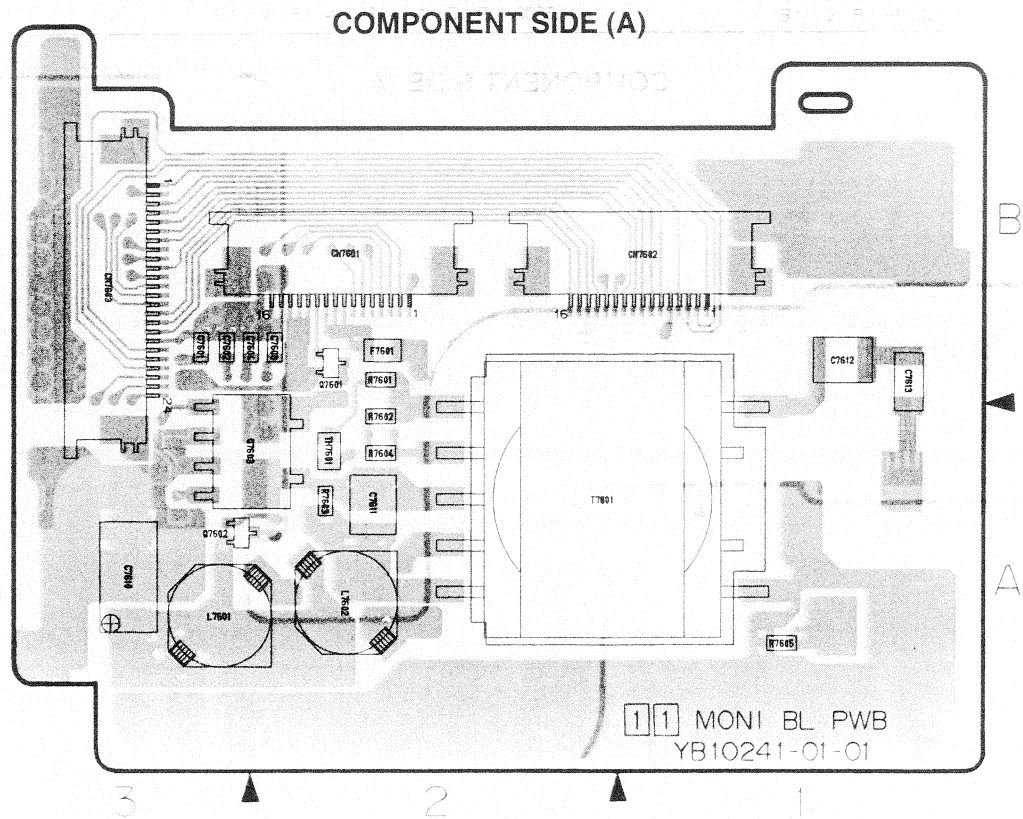


4.33 MONITOR BL CIRCUIT BOARD



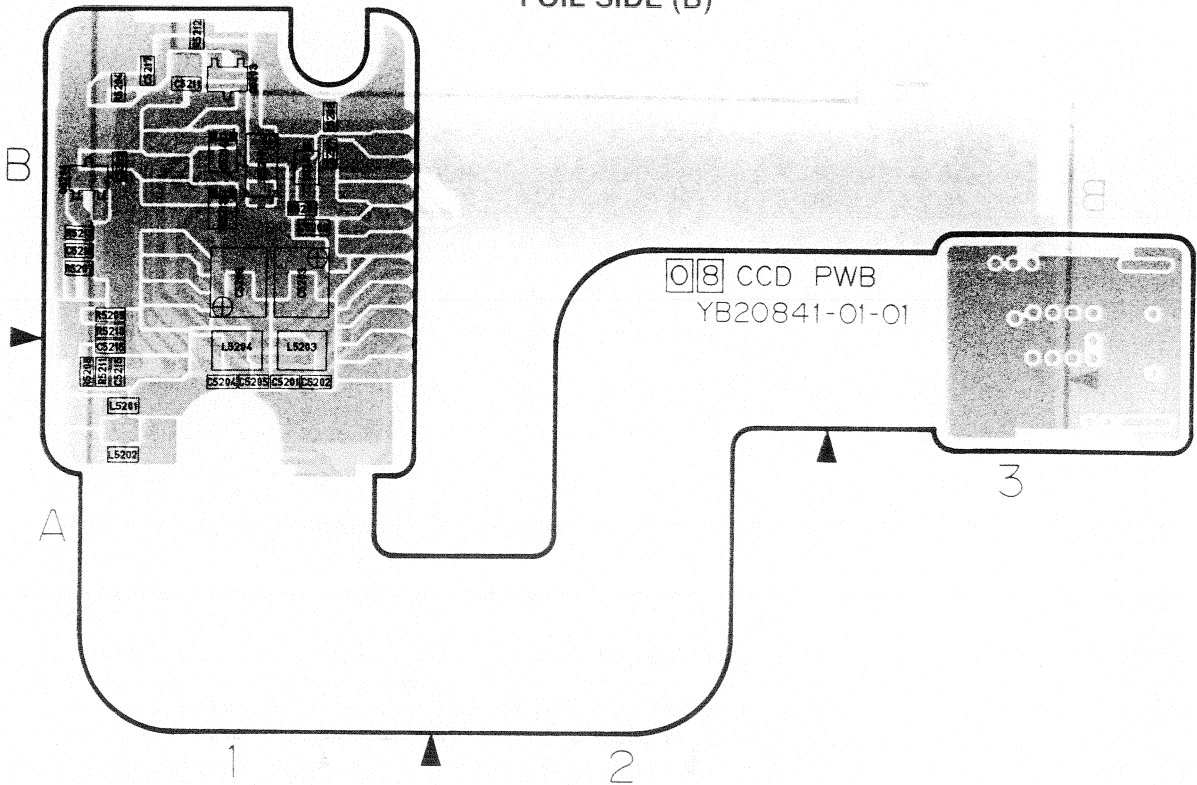
COMPONENT PARTS LOCATION GUIDE (MONITOR BL)

REF.No.	LOCATION			REF.No.	LOCATION			REF.No.	LOCATION			REF.No.	LOCATION						
CAPACITOR				C7612	A	C	1B	COIL			Q7603	A	C	3A	OTHER				
C7601	A	C	3B					L7601	A	C					3A	RESISTOR			F7601
C7602	A	C	3B	C7613	A	C	1B	L7602	A	C	2A	R7601	A	C	2B	T7601	A	C	2A
C7603	A	C	2B																
C7604	A	C	3B	CN7601	A	C	2B	Q7601	A	C	2B	R7602	A	C	2A				
C7610	A	C	3A	CN7602	A	C	1B					R7603	A	C	2A				
C7611	A	C	2A	CN7603	A	C	3B					Q7602	A	C	3A				
												R7605	A	C	1A				



4.32 CCD CIRCUIT BOARD

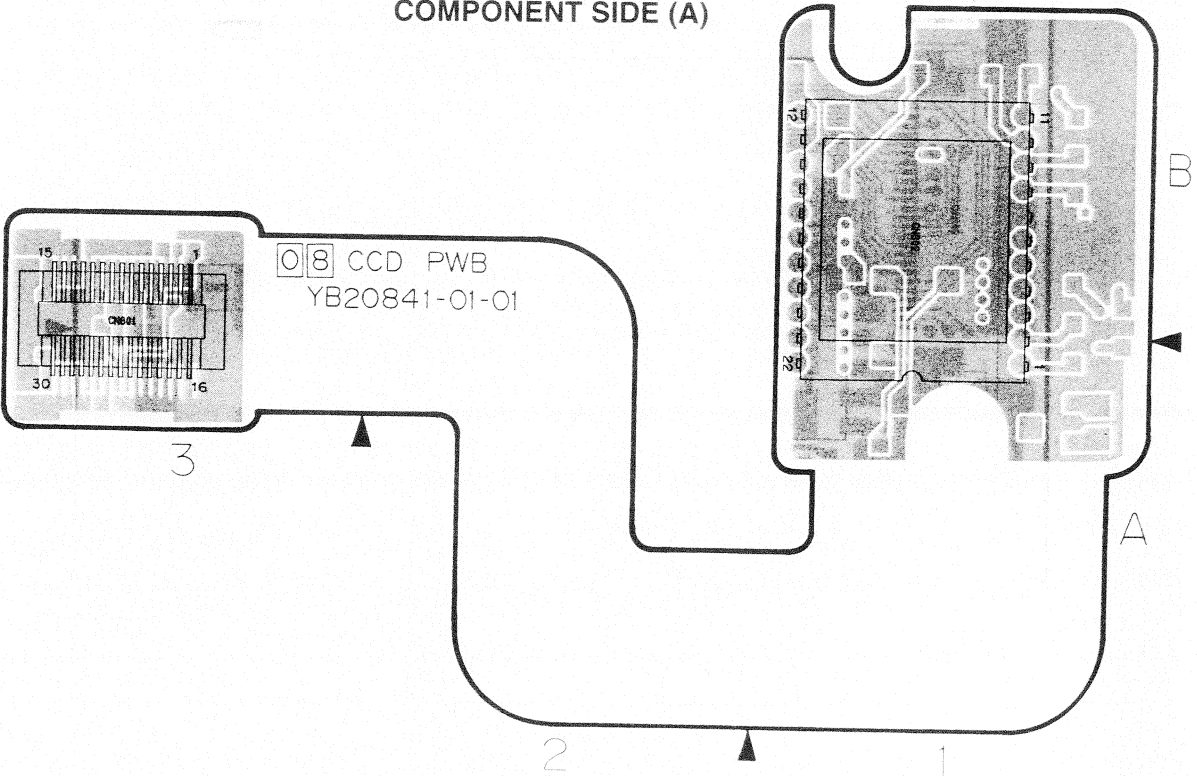
FOIL SIDE (B)



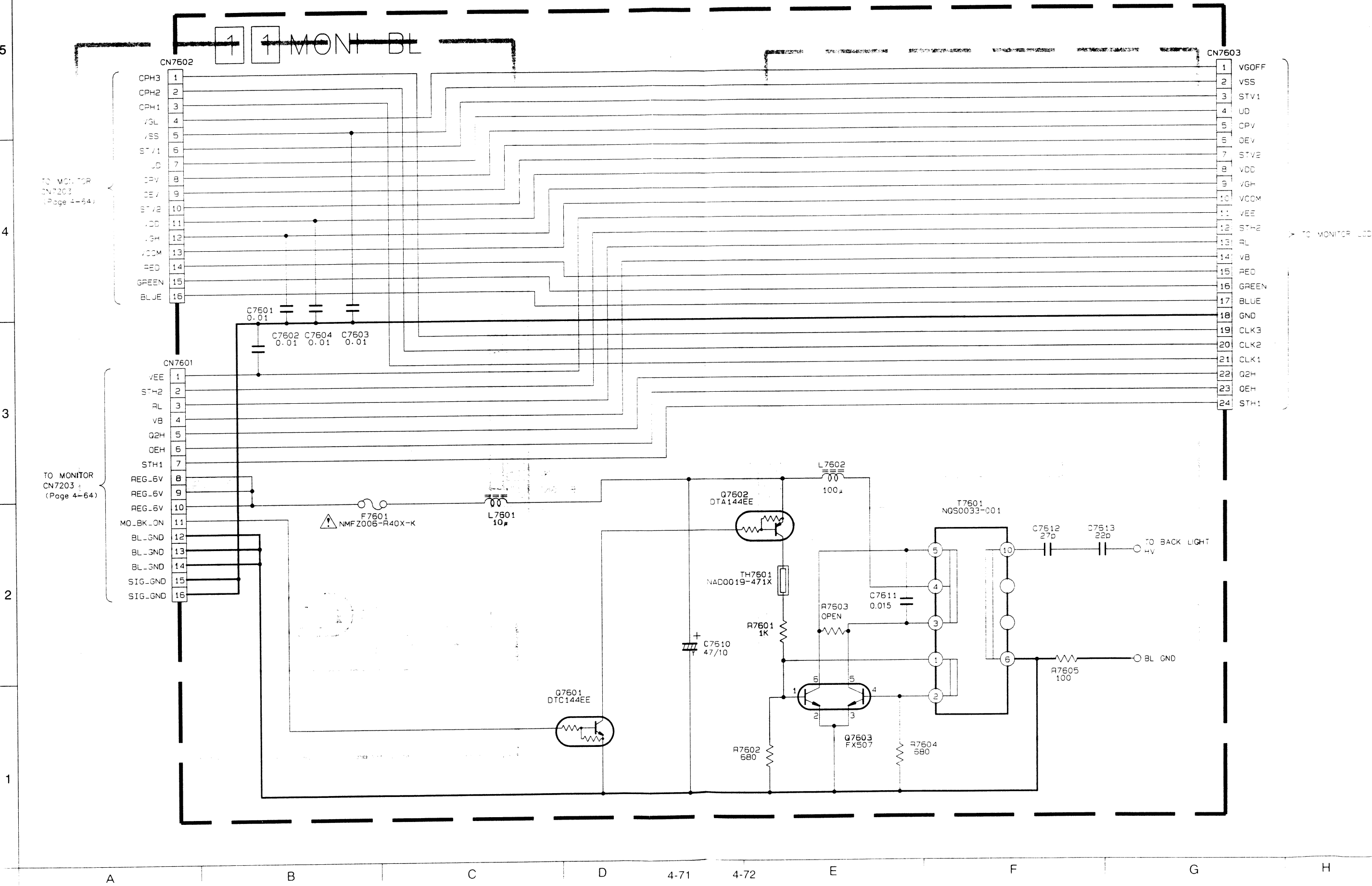
COMPONENT PARTS LOCATION GUIDE (CCD)

REF.No.	LOCATION	REF.No.	LOCATION	REF.No.	LOCATION	REF.No.	LOCATION	REF.No.	LOCATION
CAPACITOR		C5210	B C 1B	CONNECTOR		L5203	B C 1A	R5207	B C 1B
C5201	B C 1A	C5211	B C 1B	CN801	A C 3B	L5204	B C 1A	R5208	B C 1A
C5202	B C 1A	C5212	B C 1B	CN802	A D 1B	TRANSISTOR		R5209	B C 1B
C5203	B C 1B	C5213	B C 1B	DIODE		Q5203	B C 1B	R5210	B C 1B
C5204	B C 1A	C5214	B C 1B	D5201	B C 1B	Q5204	B C 1B	R5211	B C 1A
C5205	B C 1A	C5215	B C 1A	COIL		RESISTOR		R5212	B C 1B
C5206	B C 1B	C5216	B C 1A	L5201	B C 1A	R5201	B C 1B	R5213	B C 1B
C5207	B C 1B	C5217	B C 1B	L5202	B C 1A	R5204	B C 1B		
C5208	B C 1B	C5218	B C 1B						
C5209	B C 1B								

COMPONENT SIDE (A)

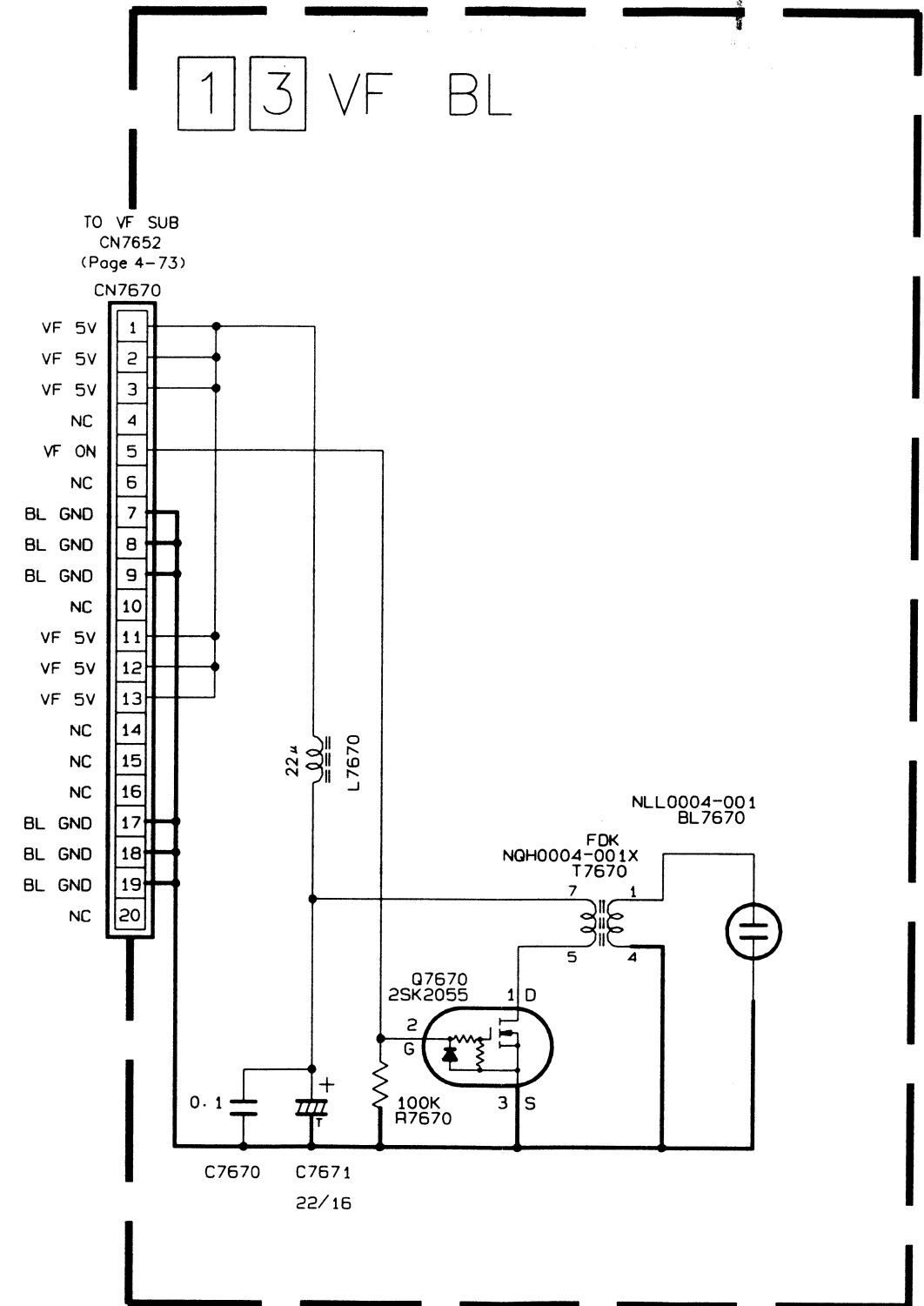
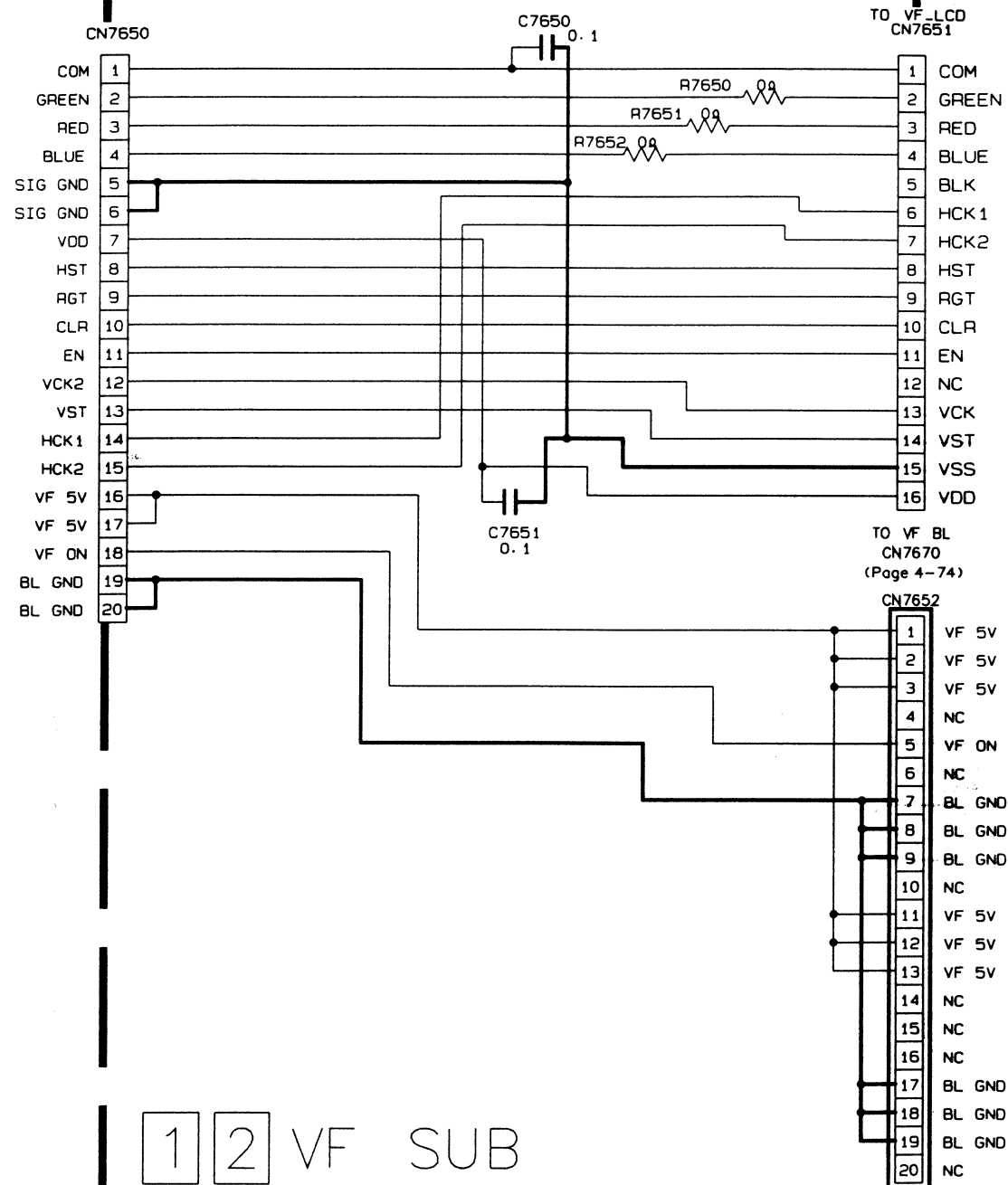


4.34 MONITOR BL SCHEMATIC DIAGRAM



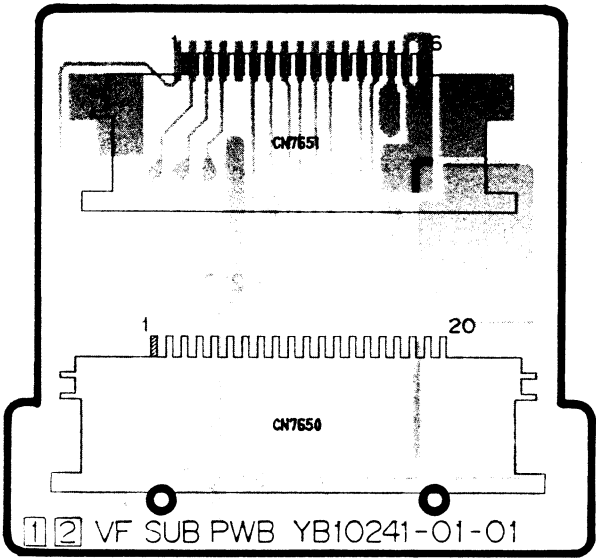
5
4
3
2
1

TO MONITOR
CN7202
(Page 4-64)

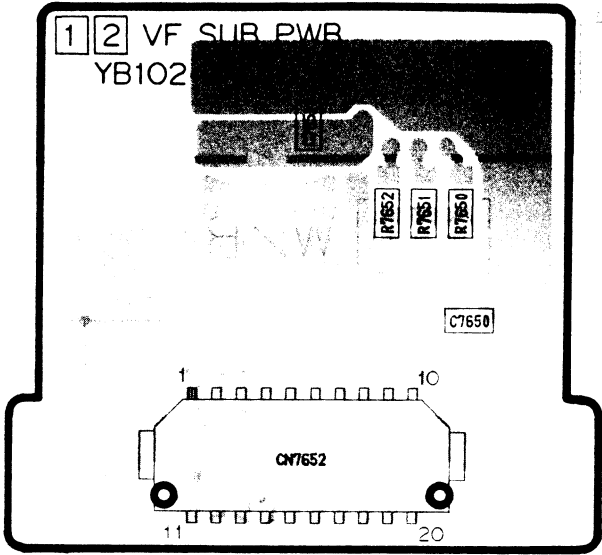


-VF SUB-

FOIL SIDE (B)

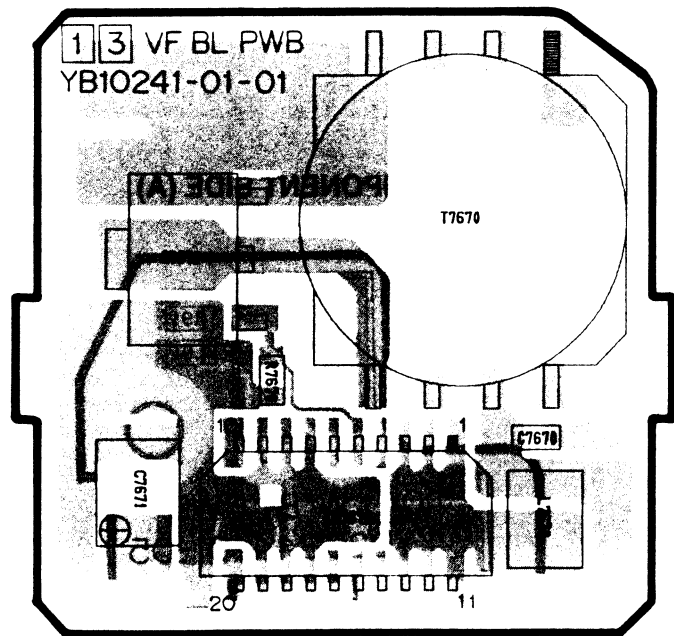


COMPONENT SIDE (A)

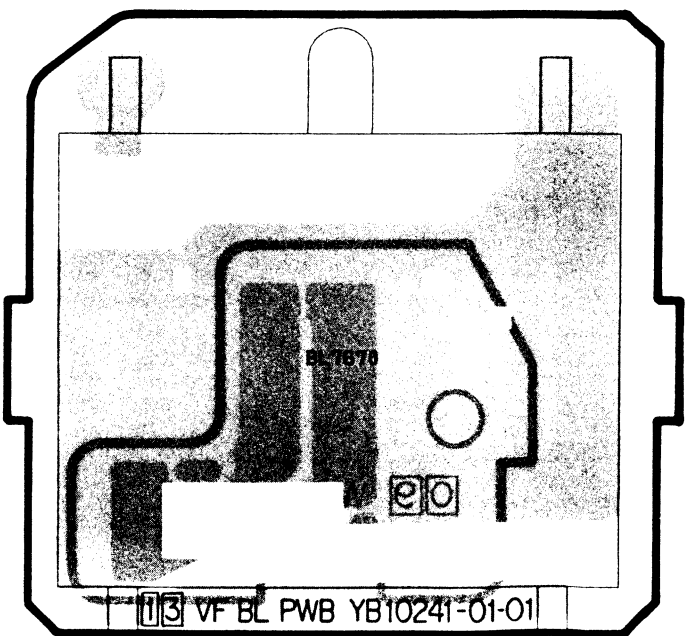


-VF BL-

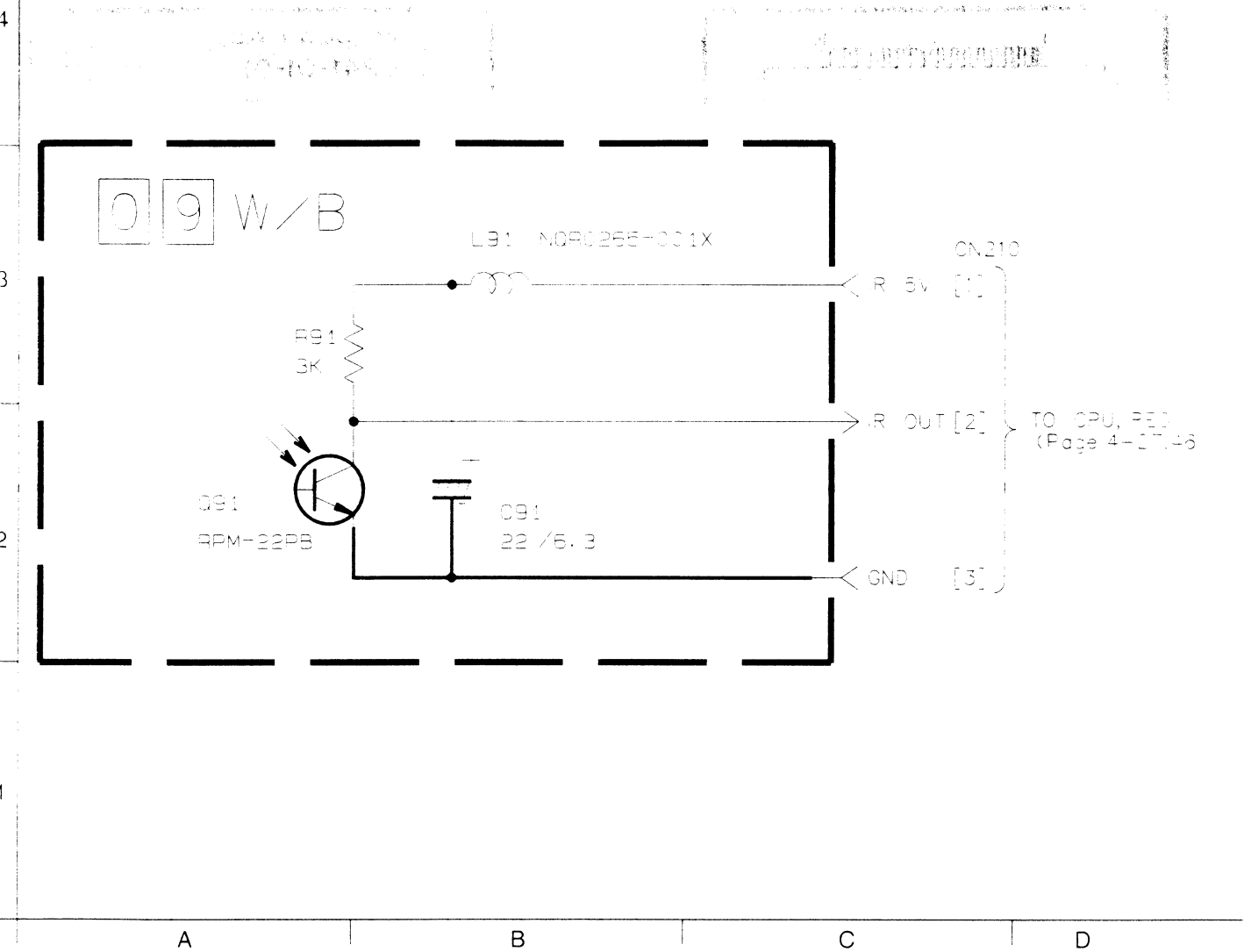
FOIL SIDE (B)



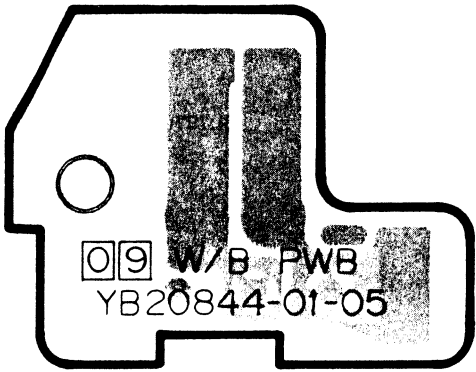
COMPONENT SIDE (A)



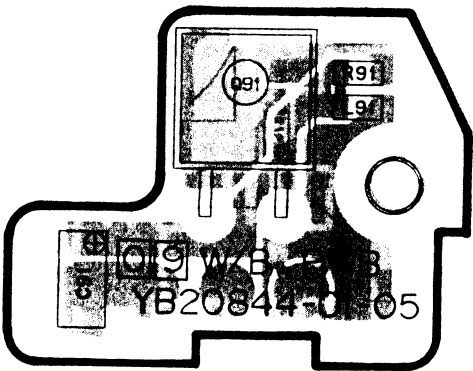
4.37 W/B SCHEMATIC DIAGRAM AND W/B CIRCUIT BOARD

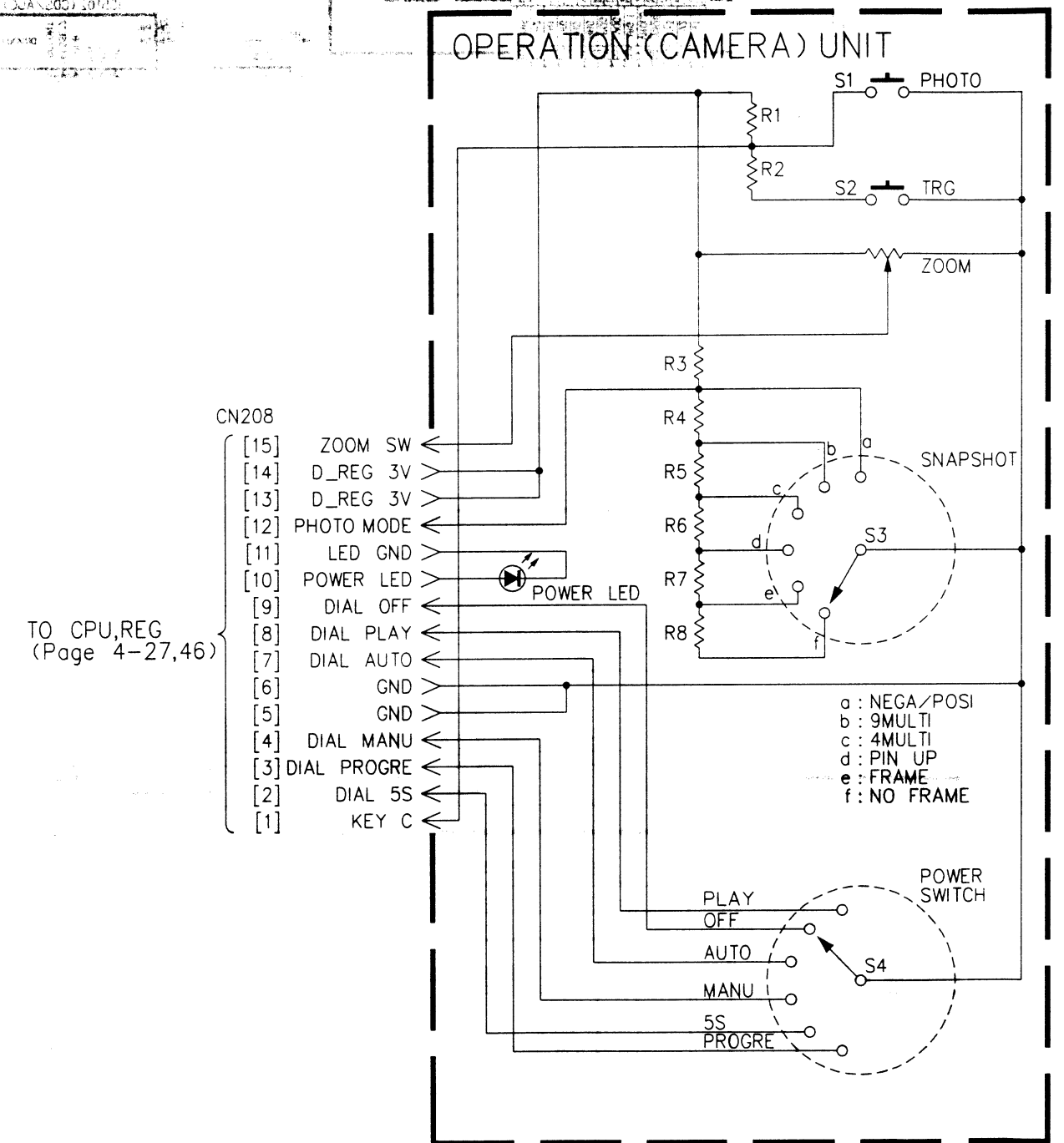
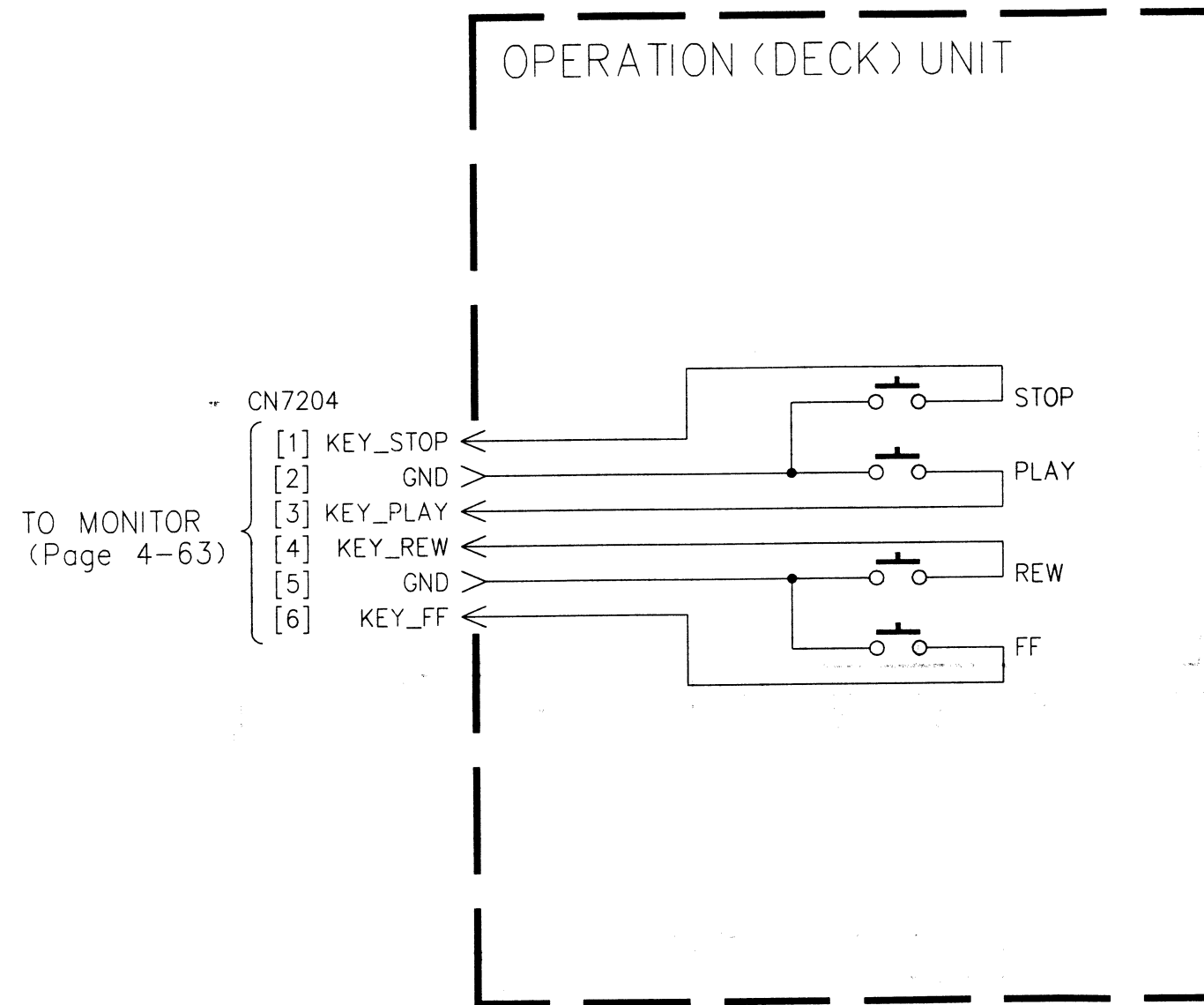


FOIL SIDE (B)

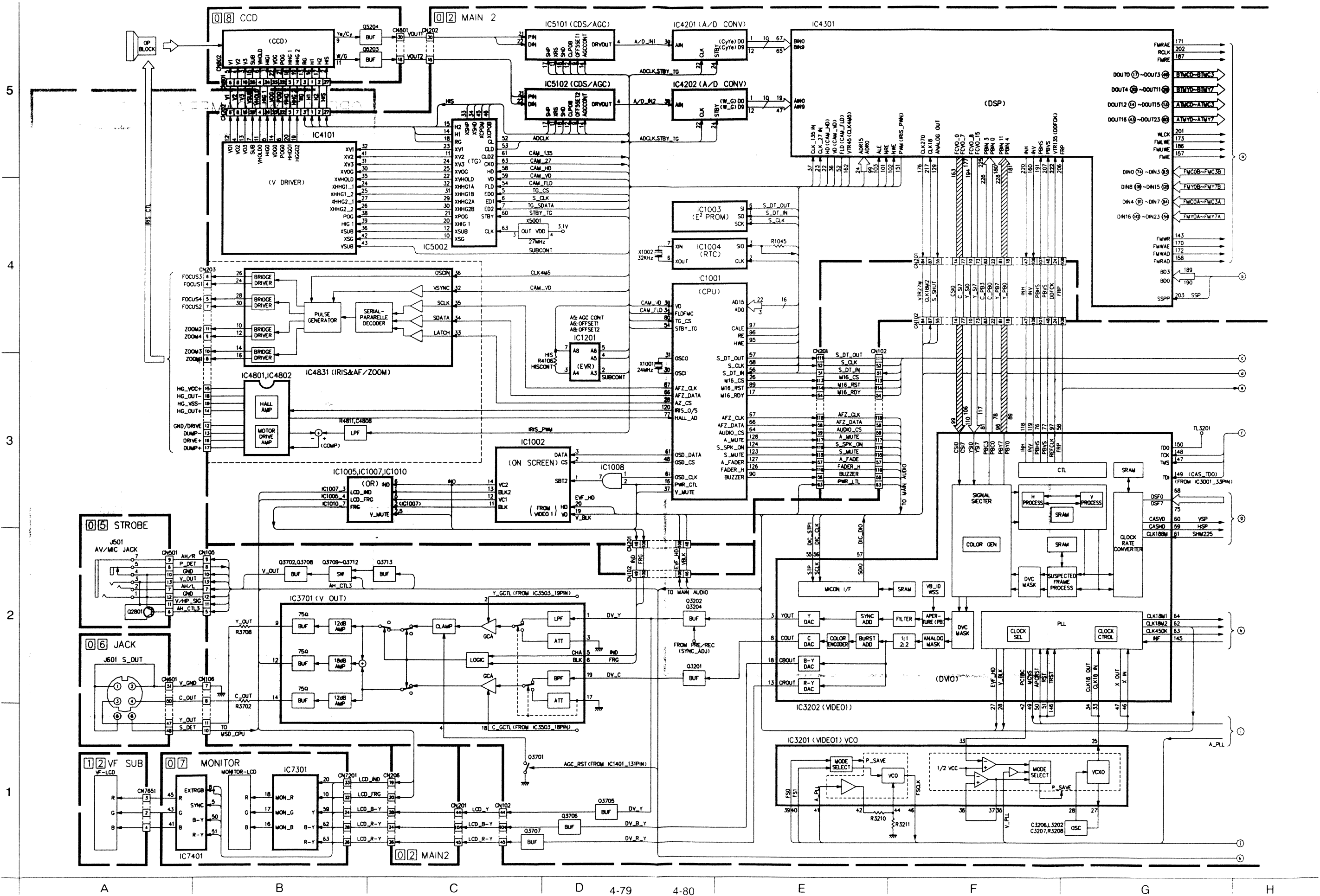


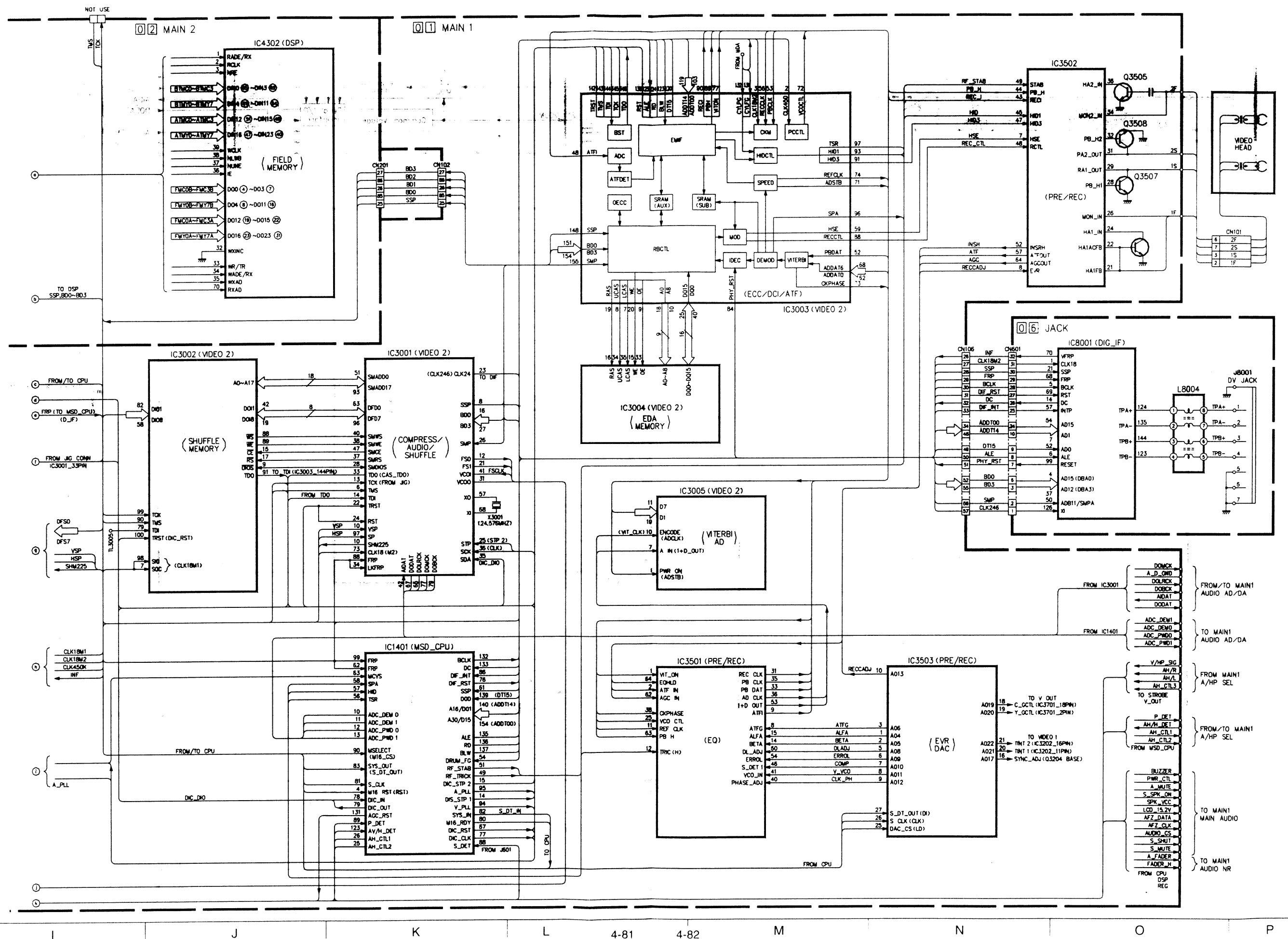
COMPONENT SIDE (A)





4.39 VIDEO SYSTEM BLOCK DIAGRAM







5





SECTION 5

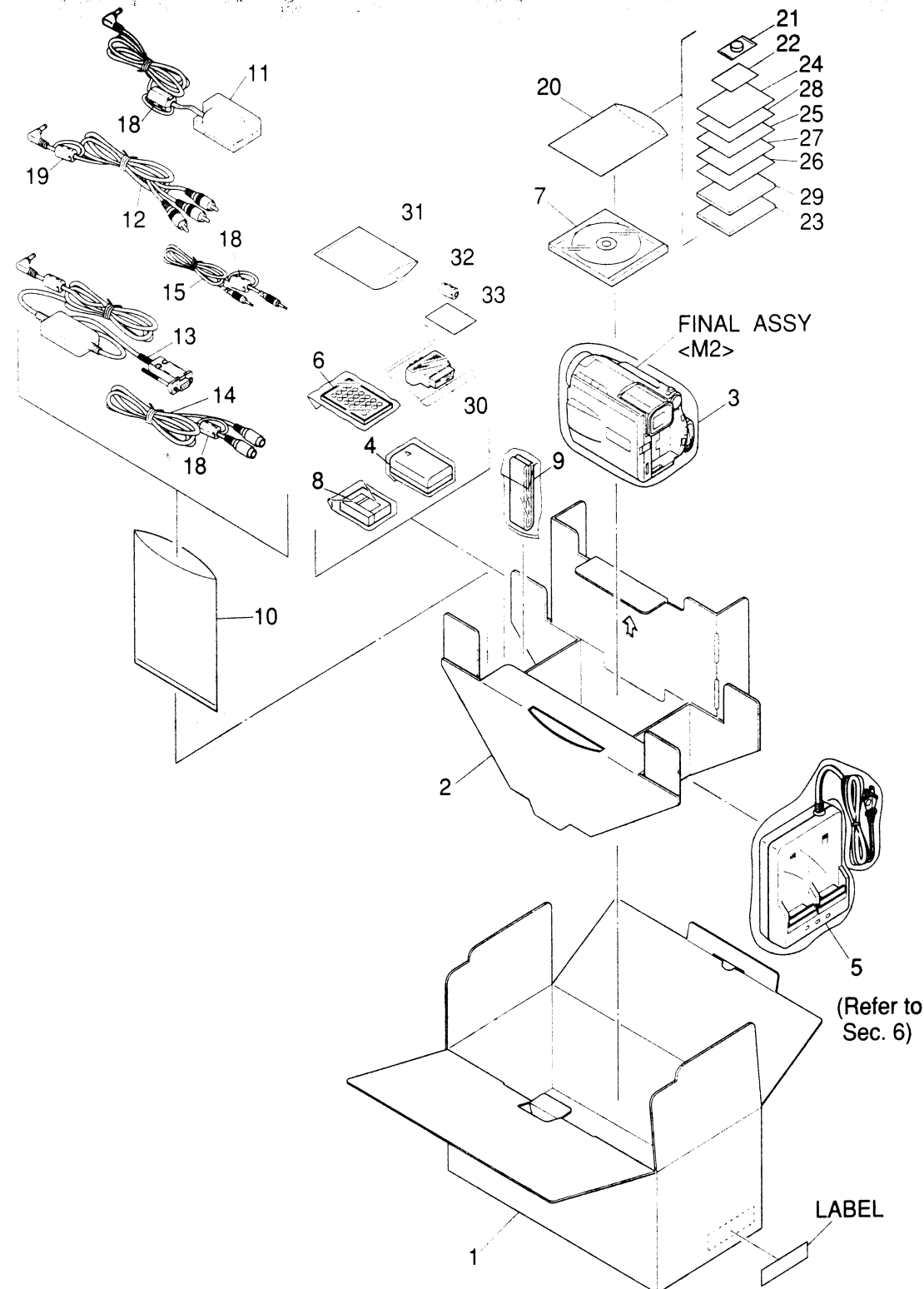
PARTS LIST

SAFETY PRECAUTION

Parts identified by the ⚠ symbol are critical for safety. Replace only with specified part numbers.

5.1 PACKING ASSEMBLY <M1>

The instruction manual to be provided with this product will differ according to the destination.

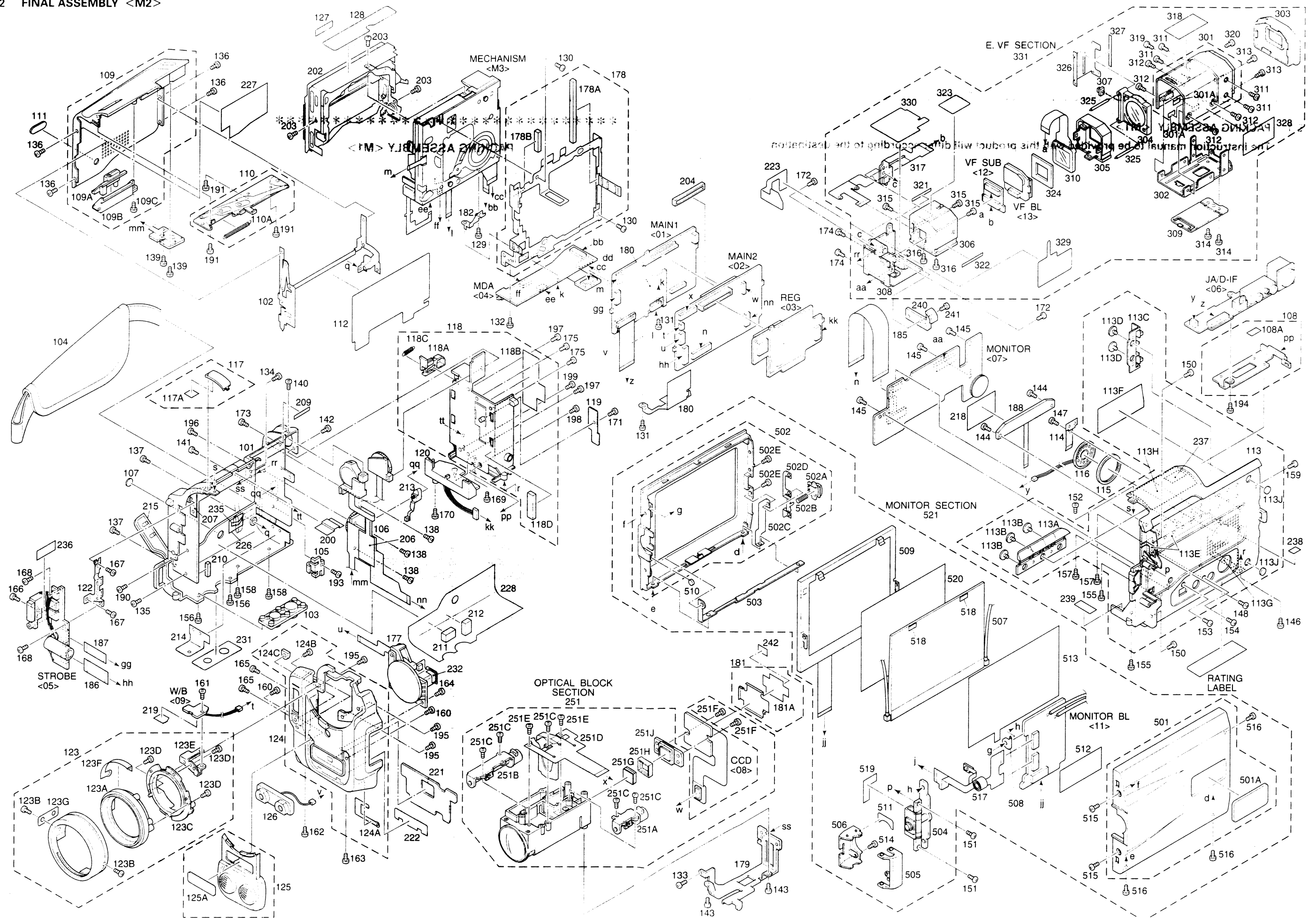


#	△ REF No.	PART No.	PART NAME, DESCRIPTION

PACKING ASSEMBLY <M1>			
1		LY31167-001A	PACKING CASE, DVL9500EG
		LY31167-002A	PACKING CASE, DVL9500EK
2		LY20433-001A	CUSHION
3		LY30023-008A	POLY BAG
△ 4		LY30780-002A	BATTERY PACK
△ 5		LY20290-008B	BATT.CHARG.ASSY, DVL9500EG
△		LY20290-009B	BATT.CHARG.ASSY, DVL9500EK
6		YQ20922M	REMOTE CONTROLLER
7		LY31133-002B	CD ROM ASSY
8		-	TAPE ASSY
9		LY20186-001A	SHOULDER STRAP
10		QPGA017-03005	POLY BAG
11		LY31057-001A	DC CORD PLUG
12		QAM0120-001	CABLE ASSY(AUDIO/VIDEO)
△ 13		QAM0099-005	PC CABLE,JLIP
14		QAM0004-004	S CABLE, S-VIDEO CABLE
15		YQ31950C	REMOTE CABLE, EDITING CABLE
18		QQR0491-002	CORE FILTER, X3
19		QQR0918-002	CORE FILTER
20		QPA02003006	POLY BAG, DVL9500EG
		YQM30061-3	POLY BAG, DVL9500EK
△ 21		PECA0903	LI BATTERY
22		YQ43558	C.CLOTH ASSY
△ 23		LYT0329-001A	IB(EN), DVL9500EG
△		LYT0329-002A	IB(GE), DVL9500EG
△		LYT0329-003A	IB(FR), DVL9500EG
△		LYT0329-004A	IB(DU), DVL9500EG
△		LYT0329-005A	IB(SP), DVL9500EG
△		LYT0329-006A	IB(IT), DVL9500EG
△		LYT0329-007A	IB(DA), DVL9500EG
△		LYT0329-008A	IB(FI), DVL9500EG
△		LYT0329-009A	IB(SW), DVL9500EG
△		LYT0329-010A	IB(NO), DVL9500EG
△		LYT0329-011A	IB(RU), DVL9500EG
△		LYT0329-012A	IB(CZ), DVL9500EG
△		LYT0329-013A	IB(PO), DVL9500EG
△		LYT0329-014A	IB(HU), DVL9500EG
△		LYT0331-001A	IB(EN), DVL9500EK
24		BT-54008-2	GUARANTEE CARD, DVL9500EK
		BT-54013-1	GUARANTEE CARD, DVL9500EG
25		LYT0162-010A	ACC.LEAFLET
26		LYT0291-005B	SHEET(INSTALL)
27		YU30878	REGIST.CARD, DVL9500EK
28		YU30843-7-1	SOFT WARE PERM.
29		LYT0291-004B	IB(SOFT)(EN)
		LYT0330-001A	IB(SOFT)(GE), DVL9500EG
		LYT0330-002A	IB(SOFT)(FR), DVL9500EG
30		PEMC1000-01-02	CONNECTOR,CABLE ADAPTER
31		LY30023-012A	POLY BAG
32		QQR0491-002	CORE FILTER
33		LYT0370-001A	SHEET(ATT.)

• INSTRUCTIONS

EN ENGLISH
GE GERMANY
FR FRENCH
DU DUTCH
SP SPANISH
IT ITALIAN
DA DANISH
FI FINNISH
SW SWEDISH
NO NORWEGIAN
RU RUSSIAN
CZ CZECH
PO POLISH
HU HUNGARIAN



#	REF No.	PART No.	PART NAME, DESCRIPTION

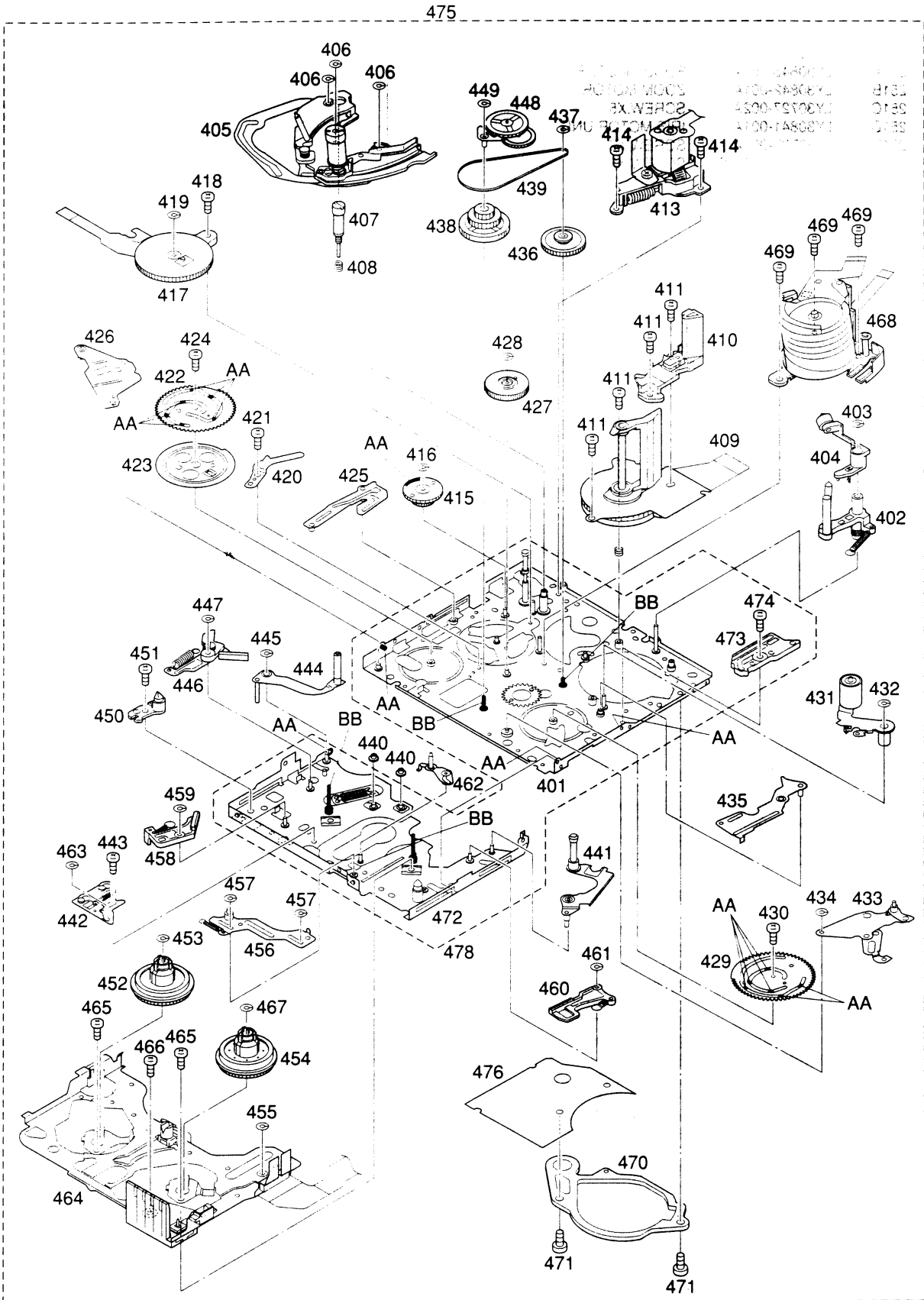
FINAL ASSEMBLY <M2>			
101	LY20383-002H	LOWER CASE ASSY	
102	LY31016-001B	ARM ASSY	
103	LY31019-001A	BASE	
104	LY20235-004C	GRIP BELT	
105	LY31049-001B	BKT(G.B)	
106	LY10172-002A	OPERATION(CAMERA)UNIT	
107	LY41214-001A	COVER(LOWER)	
108	LY41503-001A	BKT(B)ASSY	
108A	LY30016-0N9A	SPACER-A	
109	LY20384-003A	CASS COVER ASSY	
109A	LY31021-001B	KNOB(LOCK)	
109B	LY31022-001A	HOLDER(KNOB)	
109C	LY30018-023A	SPECIAL SCREW	
110	LY31023-001D	LOCK ASSY	
110A	LY30001-020A	TENSION SPRING	
111	LY41265-001A	COVER(CASS)	
112	LY41459-001A	SHEET(CC)	
113	LY20460-003A	UPPER CASE ASSY	
113A	LY31188-001A	BUTTON(PLAY)	
113B	LY30018-074A	SPECIAL SCREW,X3	
113C	LY31189-002A	BUTTON(MENU)	
113D	LY30018-074A	SPECIAL SCREW,X2	
113E	LY41443-001A	SHEET(EARTH)	
113F	LY41395-001A	SHEET(UPPER)	
113G	LY30016-0Q4A	SPACER-A	
113H	LY30016-0Q7A	SPACER-A	
113J	LY40664-001A	SPACER,X2	
114	LY41236-001A	BKT(SPEAKER)	
115	LY40301-001A	SPACER(SPK)	
116	QAS0029-001	SPEAKER	
117	LY41510-001A	WINDOW ASSY	
117A	LY30016-0P1A	SPACER-A	
118	LY20388-003D	REAR COVER ASSY	
118A	LY31032-001B	KNOB(B.REL)	
118B	LY41227-003B	SHEET(REAR)	
118C	LY30001-018A	TENSION SPRING	
118D	LY41392-001A	SPACER	
119	LY41226-001A	COVER(JIG)	
120	LY31033-001B	BATT.TERM.UNIT	
122	LY41253-001A	BKT(STROBE)	
123	LY31025-001G	HOOD ASSY	
123A	LY31027-001B	LENS HOLDER	
123B	LY30018-011A	SPECIAL SCREW,X2	
123C	LY31028-001E	SHUTTER HOLDER	
123D	LY30018-023A	SPECIAL SCREW,X3	
123E	LY31029-001B	BKT(HOOD)	
123F	LY41419-001A	SHEET(EARTH)	
123G	LY41420-001A	SHEET(EARTH)	
124	LY20385-002B	FRONT COVER ASSY	
124A	LY41421-001A	SHEET(EARTH)	
124B	LY30018-023A	SPECIAL SCREW	
124C	LY41426-001A	SHEET(WINDOW)	
125	LY31030-002B	MIC COVER ASSY	
125A	LY40987-003B	MARK	
126	LY31031-001A	MICROPHONE	
127	LY40699-002A	LABEL(PUSH)	
128	LY40698-002A	LABEL(HOUSING)	
129	YQ43893-4	MINI SCREW	
130	LY30019-003A	SPECIAL SCREW,X2	
131	LY30018-014A	SPECIAL SCREW,X2	
132	LY30018-022A	SPECIAL SCREW	
133	LY30018-064A	SPECIAL SCREW	
134	LY30018-064A	SPECIAL SCREW	
135	LY30018-064A	SPECIAL SCREW	
136	LY30018-066A	SPECIAL SCREW,X4	
137	LY30018-066A	SPECIAL SCREW,X2	
138	LY30018-023A	SPECIAL SCREW,X3	
139	LY30018-021A	SPECIAL SCREW,X2	
140	LY30018-023A	SPECIAL SCREW	
141	LY30018-023A	SPECIAL SCREW	
142	LY30018-037A	SPECIAL SCREW	
143	LY30018-063A	SPECIAL SCREW,X2	
144	LY30018-044A	SPECIAL SCREW,X2	
145	LY30018-044A	SPECIAL SCREW,X3	
146	LY30018-060A	SPECIAL SCREW	

#	REF No.	PART No.	PART NAME, DESCRIPTION
147	LY30018-046A	SPECIAL SCREW	
148	QYSPSPU1640R	SCREW	
150	LY30018-060A	SPECIAL SCREW,X2	
151	LY30018-068A	SPECIAL SCREW,X2	
152	LY30018-067B	SPECIAL SCREW	
153	QYSPSPU1640R	SCREW	
154	LY30018-060A	SPECIAL SCREW	
155	LY30018-060A	SPECIAL SCREW,X2	
156	LY30018-037A	SPECIAL SCREW,X2	
157	LY30018-047A	SPECIAL SCREW,X2	
158	LY30018-067B	SPECIAL SCREW,X2	
159	LY30018-060A	SPECIAL SCREW	
160	LY30018-023A	SPECIAL SCREW,X2	
161	LY30018-005A	SPECIAL SCREW	
162	LY30018-037A	SPECIAL SCREW	
163	LY30018-047A	SPECIAL SCREW	
164	LY30018-023A	SPECIAL SCREW	
165	LY30018-063A	SPECIAL SCREW,X2	
166	LY30018-021A	SPECIAL SCREW	
167	LY30018-021A	SPECIAL SCREW,X2	
168	LY30018-022A	SPECIAL SCREW,X2	
169	LY30018-037A	SPECIAL SCREW	
170	LY30018-037A	SPECIAL SCREW	
171	LY30018-037A	SPECIAL SCREW	
172	LY30018-075A	SPECIAL SCREW,X2	
173	LY30018-005A	SPECIAL SCREW	
174	LY30018-017A	SPECIAL SCREW,X2	
175	LY30018-067B	SPECIAL SCREW,X2	
177	LY20429-001H	L.SHUTTER ASSY	
178	LY31157-001A	BRACKET(M1)ASSY	
178A	LY30016-0L6A	SPACER-A	
178B	LY30016-0L7A	SPACER-A	
179	LY31010-001C	BKT(OP)	
180	LY31012-001A	SHIELD COVER	
181	LY41549-001C	SHIELD(CCD)ASSY	
181A	LY41339-001A	SHEET(SHIELD)	
182	LY40709-001C	BRACKET(GRD)	
185	QAL0151-001	FPC	
186	WJT0014-001A	E-CARD WIRE,STROBE CN502-MAIN2 CN205	
187	QAL0153-001	FPC	
188	LY31080-001B	FPC ASSY(OPERATION DECK UNIT)	
190	LY30018-066A	SPECIAL SCREW	
191	LY30018-021A	SPECIAL SCREW,X3	
193	QYSLSF2050D	SCREW	
194	LY30018-057A	SPECIAL SCREW	
195	LY30018-023A	SPECIAL SCREW,X3	
196	LY30018-044A	SPECIAL SCREW	
197	LY30018-064A	SPECIAL SCREW,X2	
198	LY30018-067B	SPECIAL SCREW	
199	LY30018-064A	SPECIAL SCREW	
200	LY41365-001A	SPACER(SHIELD)	
202	LY30483-001K	CASSETTE HOUSING ASSY	
203	YQ43893-4	MINI SCREW,X3	
204	LY41388-001A	HOLDER(CONN)	
206	LY41391-001A	SHEET(OPE)	
207	LY41348-001A	SHEET(EARTH1)	
209	LY30016-0K8B	SPACER-A	
210	LY30016-0L6A	SPACER-A	
211	LY30016-0N7A	SPACER-A	
212	LY30016-0N6A	SPACER-A	
213	LY31015-001C	BUTTON(TRG)	
214	LY41349-001A	SHEET(EARTH2)	
215	LY31014-001A	JACK COVER	
218	LY30016-0N1A	SPACER-A	
219	LY41461-001A	SPACER(W/B)	
221	LY41423-001A	SHIELD SHEET	
222	LY41427-001A	SHIELD SHEET	
223	LY41403-001A	HEAT SINK(2)	
226	LY30016-0N8A	SPACER-A	
227	LY41457-001C	NET(CASSETTE)	
228	LY41458-001B	NET(LOWER)	
231	LY41493-001A	SHEET(BOTTOM)	
232	LY30016-0P6A	SPACER-A	
235	LY30016-0P2A	SPACER-A	
236	LY30016-0P9A	SPACER-A	
237	LY30016-0Q7A	SPACER-A	
238	LY30016-0Q8A	SPACER-A	
239	LY30016-0R7A	SPACER-A	
240	LY31198-001A	COVER(VF)	

#	REF No.	PART No.	PART NAME, DESCRIPTION
241	LY30018-005A	SPECIAL SCREW	
242	LY30016-0P5A	SPACER-A	
- OPTICAL BLOCK SECTION -			
251	LYH20046-002A	OPTICAL BLOCK ASSY	
251A	LY30843-001A	FOCUS MOTOR	
251B	LY30842-001A	ZOOM MOTOR	
251C	LY30727-002A	SCREW,X5	
251D	LY30841-001A	IRIS MOTOR UNIT	
251E	LY30727-001A	SCREW,X2	
251F	QYSPSGU1750Z	SCREW,X2	
251G	LY41254-001A	OPTICAL LPF	
251H	YQ32122	SPACER RUBBER	
251J	LYH40016-002A	CCD BASE ASSY	
- ELECTRONIC VIEWFINDER SECTION -			
301	LY20390-002A	CASE(TOP)ASSY	
301A	LY41228-001B	GUIDE,X2	
302	LY20392-001C	CASE(BOTTOM)	
303	LY31034-001C	EYE CUP	
304	LY41284-001D	LENS ASSY	
305	LY20394-001B	HOLDER(LCD)	
306	LY20395-001B	HOLDER(SW)	
307	LY41230-001C	SLIDE KNOB	
308	LY31035-001C	HINGE ASSY	
309	LY31054-001B	CAP	
310	QLD0056-001	LCD MODULE	
311	LY30018-022A	SPECIAL SCREW,X4	
312	LY30018-032A	SPECIAL SCREW,X4	
313	LY30018-049A	SPECIAL SCREW,X2	
314	LY30018-055A	SPECIAL SCREW,X2	
315	LY30018-038A	SPECIAL SCREW,X3	
316	LY30018-022A	SPECIAL SCREW,X2	
317	LY31083-001C	FPC ASSY	
318	LY41341-002B	LABEL(CAUTION)	
319	LY30018-038A	SPECIAL SCREW	
320	LY30018-049A	SPECIAL SCREW	
321	LY30016-0L2A	SPACER-A	
322	LY30016-0L1A	SPACER-A	
323	LY41235-001B	SHEET	
324	LY40127-001A	SPACER(LCD.)	
325	LY41382-001C	SHAFT(L.GUID),X2	
326	LY31142-001B	LENS GUIDE BASE	
327	LY30016-0N2A	SPACER-A	
328	LY41341-003B	LABEL(CAUTION)	
329	LY41494-001B	SHEET(VF BKT)	
330	LY41502-001A	SHEET(VF BKT)2	
331	LYH20050-003B	EVF ASSY	
- MONITOR SECTION -			
501	LY31038-003A	MONITOR COVER ASSY	
501A	LY31040-003A	PLATE(MONITOR)	
502	LY31041-001C	MONITOR CASE ASSY	
502A	LY31039-001B	BUTTON(LOCK)	
502B	LY30002-029A	COMPRES. SPRING	
502C	LY41295-001A	SHEET(EARTH)	
502D	LY31043-001B	BKT(BUTTON)	
502E	QYSPSPU1730Z	SCREW,X2	
503	LY31042-001A	BKT(MONITOR CASE)	
504	LY30555-002B	HINGE ASSY	
505	LY31044-002B	HINGE COVER 1	
506	LY31045-001B	HINGE COVER 2	
507	QLL0057-001	BACK LIGHT	
508	LY41238-001A	PLATE(EARTH)	
509	QLD0066-001	LCD MODULE	
510	LY40663-002A	MAGNET	
511	LY40764-003A	SHEET	
512	LY30016-0J4A	SPACER-A	
513	LY41237-001A	SHIELD PLATE	
514	QYSPSPU1735D	SCREW	
515	LY30018-028A	SPECIAL SCREW,X2	
516	QYSPSPU1740R	SCREW,X3	
517	LY31079-001F	FPC ASSY	
518	LY30016-0P4A	SPACER-A,X2	
519	LY41463-001A	SHEET(HINGE)	
520	LY41488-001A	SHEET	

#	REF No.	PART No.	PART NAME, DESCRIPTION
521	LYH20051-003A	MONITOR ASSY	

BEWARE OF BOGUS PARTS
Parts that do not meet specifications may cause trouble in regard to safety and performance. We recommend that genuine JVC parts be used.



Classification	Part No.	Symbol in drawing
Grease	KYODO-SH-P	AA
Oil	YTU94027	BB

NOTE: The section marked in AA and BB, indicate lubrication and greasing areas.

△ REF No. PART No. PART NAME, DESCRIPTION

MECHANISM ASSEMBLY <M3>

401	LY10077-001G	MAIN DECK ASSY
402	LY30436-001F	SLANT POLE ARM ASSY
403	YQ44246	SLIT WASHER
404	LY30438-001B	CLEANER ARM ASSY
405	LY10080-001N	RAIL ASSY
406	YQ44246	SLIT WASHER,X3
407	LY40353-001D	GUIDE ROLLER(S) ASSY
408	LY30002-006C	COMPRESSION SPRING
409	QAR0026-001	CAPSTAN MOTOR
410	LY30504-001B	CATCHER(T) ASSY
411	YQ43893	MINI SCREW,X4
413	LY30448-001C	MOTOR BKT ASSY
414	YQ43893	MINI SCREW,X2
415	LY30449-001C	WORM WHEEL
416	YQ44246	SLIT WASHER
417	LY40496-001C	ROTARY ENCODER
418	YQ43893	MINI SCREW
419	YQ44246	SLIT WASHER
420	LY40614-001B	GEAR HOLDER
421	YQ43893	MINI SCREW
422	LY30450-001B	MAIN CAM
423	LY30840-001A	BRAKE CTL PLATE
424	YQ43893	MINI SCREW
425	LY40373-001C	TC LEVER ASSY
426	LY30452-001E	SLIDE LEVER ASSY
427	LY30454-001A	CONNECT GEAR
428	YQ44246	SLIT WASHER
429	LY30455-001A	SUB CAM
430	YQ43893	MINI SCREW
431	LY30456-001B	PINCHROLLER ARM ASSY
432	YQ44246	SLIT WASHER
433	LY30459-001A	CHARGE ARM ASSY
434	YQ44246	SLIT WASHER
435	LY40387-001B	BC LEVER ASSY
436	LY40389-001C	R.D.PULLEY ASSY
437	YQ44246-2	SLIT WASHER
438	LY40391-001D	CENTER GEAR ASSY
439	LY40396-001A	TIMING BELT
440	LY40413-001A	COLLAR,X2
441	LY30468-001B	GUIDE ARM ASSY
442	LY30618-001C	SLIDE GUIDE PLATE ASSY
443	YQ43893-2	MINI SCREW
444	LY40420-001H	TENSION ARM ASSY
445	YQ44246	SLIT WASHER
446	LY30471-002A	PAD ARM ASSY
447	YQ44246	SLIT WASHER
448	LY40432-001E	IDLER ARM ASSY
449	YQ44246-2	SLIT WASHER
450	LY30476-001A	GUIDE PIN(SUPPLY)
451	YQ43893	MINI SCREW
452	LY40441-001B	REEL DISK (SUPPLY) ASSY
453	YQ44246	SLIT WASHER
454	LY40443-001B	REEL DISK(TAKE-UP) ASSY
455	YQ44246	SLIT WASHER
456	LY30477-001D	CTL PLATE ASSY
457	YQ44246	SLIT WASHER,X2
458	LY40444-001E	LOADING BRAKE ASSY
459	YQ44246	SLIT WASHER
460	LY40452-001A	SUB BRAKE ASSY
461	YQ44246	SLIT WASHER

# △ REF No.	PART No.	PART NAME, DESCRIPTION
462	LY30479-001B	RELEASE GUIDE ASSY
463	YQ44246	SLIT WASHER
464	LY20146-001F	REEL COVER ASSY
465	YQ43893-4	MINI SCREW,X2
466	YQ43893	MINI SCREW
467	YQ44246	SLIT WASHER
468	YDV2086F	DRUM ASSY
469	YQ43893	MINI SCREW,X3
470	LY20138-001C	PWB HOLDER
471	YQ43893	MINI SCREW,X2
472	LY10082-001H	SLIDE DECK ASSY
473	LY30462-001A	LOADING GUIDE
474	YQ43893	MINI SCREW
475	YMA0025D	MECHA(A) ASSY
476	LY41109-001A	SHIELD
478	LY30496-001L	DECK ASSY

5.4 ELECTRICAL PARTS LIST

REF ID: PART No. PART NAME DESCRIPTION

MAIN1 BOARD ASSEMBLY <01>

PW YB10237C-02 MAIN BOARD ASSY

IC1401 M31020MA-134VP IC

or M31020EA-134VP IC

IC1402 TC7W14FU IC(DIGITAL)

IC1403 TK71235M IC

IC2101 AK4518-VF-X IC

IC2201 BH7760KV IC

IC2402 TC7S08FU IC(DIGITAL)

IC2501 M5282FP-XE IC

IC2502 M5282FP-XE IC

IC2551 BA10324AFV-XE IC

IC2701 SN74AHC1G66K IC

IC2751 TC74HC4052AFT IC

IC3001 YQ44800A CSP IC ASSY

YUN67373Y IC

IC3002 YQ44802A CSP IC ASSY

YMN47V07AY IC

IC3003 M65500FP IC(DIGITAL)

IC3004 MN41V4260DF IC

IC3005 AD9283BRS-50-X IC

IC3201 BH7086KV IC(DIGITAL)

IC3202 T9P90EF IC

IC3501 AN3741FAP-A IC(DIGITAL)

IC3502 AN3731FHQ IC(DIGITAL)

IC3503 MB88345PF IC

IC3701 NJM2538V IC

IC3702 TK71230M IC

Q1401 DTA114EE TRANSISTOR

Q1402 UMG3N TRANSISTOR

Q1403 UMC3N TRANSISTOR

Q1404 UMC3N TRANSISTOR

Q1405 DTC143EE TRANSISTOR

Q2201 2SC4617/QR/-X TRANSISTOR

Q2204 2SC4617/QR/-X TRANSISTOR

Q2205 UMX1N PAIR TRANSISTOR

Q2206 DTC144EE TRANSISTOR

Q2401 2SD1511 R/-X TRANSISTOR

Q2551 DTC144EE TRANSISTOR

Q2552 DTC144EE TRANSISTOR

Q2553 DTC144EE TRANSISTOR

Q2554 DTA143EE TRANSISTOR

Q2555 DTC144EE TRANSISTOR

Q2556 2SA1774/QR/-X TRANSISTOR

Q2557 DTA144EE TRANSISTOR

Q2558 DTC144EE TRANSISTOR

Q2559 DTC144EE TRANSISTOR

Q2560 2SC4617/QR/-X TRANSISTOR

Q2561 DTC144EE TRANSISTOR

Q2601 2SA1774/QR/-X TRANSISTOR

Q2602 2SA1774/QR/-X TRANSISTOR

Q2603 2SA1774/QR/-X TRANSISTOR

Q2604 2SA1774/QR/-X TRANSISTOR

Q2605 2SC4617/QR/-X TRANSISTOR

Q2701 DTC144EE TRANSISTOR

Q2703 2SC4617/QR/-X TRANSISTOR

Q2704 2SC4617/QR/-X TRANSISTOR

Q2705 2SC4617/QR/-X TRANSISTOR

REF ID: PART No. PART NAME DESCRIPTION

Q2751 DTC144EE TRANSISTOR

Q2752 2SA1774/QR/-X TRANSISTOR

Q2753 2SA1774/QR/-X TRANSISTOR

Q2754 2SC4617/QR/-X TRANSISTOR

Q2755 UMX1N PAIR TRANSISTOR

Q2756 2SA1774/QR/-X TRANSISTOR

Q2757 DTA144EE TRANSISTOR

Q2758 DTC144EE TRANSISTOR

Q2759 DTC144EE TRANSISTOR

Q2760 2SC4617/QR/-X TRANSISTOR

Q3201 2SC4617/RS/-X TRANSISTOR

Q3202 2SC4617/RS/-X TRANSISTOR

Q3204 2SC4617/RS/-X TRANSISTOR

Q3501 2SC4226 4/-X TRANSISTOR

Q3502 DTC124XE TRANSISTOR

Q3503 2SC4617/QR/-X TRANSISTOR

Q3504 2SA1774/QR/-X TRANSISTOR

Q3505 2SC4226 4/-X TRANSISTOR

Q3506 2SC4226 4/-X TRANSISTOR

Q3507 2SD1979 S/-X TRANSISTOR

Q3508 2SD1979 S/-X TRANSISTOR

Q3509 2SA1577/QR/-X TRANSISTOR

Q3510 DTC144EE TRANSISTOR

Q3511 2SA1774/QR/-X TRANSISTOR

Q3512 DTC144EE TRANSISTOR

Q3701 DTC144EE TRANSISTOR

Q3702 2SA1774/RS/-X TRANSISTOR

Q3703 2SA1774/RS/-X TRANSISTOR

Q3704 DTC143ZE TRANSISTOR

Q3705 2SA1774/RS/-X TRANSISTOR

Q3706 2SA1774/RS/-X TRANSISTOR

Q3707 2SA1774/RS/-X TRANSISTOR

Q3708 2SC4617/RS/-X TRANSISTOR

Q3709 DTC144EE TRANSISTOR

Q3710 2SA1774/RS/-X TRANSISTOR

Q3711 2SA1774/RS/-X TRANSISTOR

Q3712 UMA2N TRANSISTOR

Q3713 UMT2N PAIR TRANSISTOR

D2551 DAN222 DIODE

D2552 DAN222 DIODE

D2553 DAP222 DIODE

D2751 DAN222 DIODE

D2752 DA221 DIODE

D2753 DA221 DIODE

D3701 DTZ6.8 ZENER DIODE

D3702 DTZ6.8 ZENER DIODE

D3703 DTZ6.8 ZENER DIODE

R1402 NRSA6AJ-0R0W MG RESISTOR 0Ω, 1/16W

R1403 NRSA6AJ-105W MG RESISTOR 1MΩ, 1/16W

R1404 NRSA6AJ-220W MG RESISTOR 22Ω, 1/16W

R1405 NRSA6AJ-102W MG RESISTOR 1kΩ, 1/16W

R1406 NRSA6AJ-102W MG RESISTOR 1kΩ, 1/16W

R1407 NRSA6AJ-102W MG RESISTOR 1kΩ, 1/16W

R1408 NRSA6AJ-102W MG RESISTOR 1kΩ, 1/16W

R1409 NRSA6AJ-102W MG RESISTOR 1kΩ, 1/16W

R1410 NRSA6AJ-102W MG RESISTOR 1kΩ, 1/16W

R1411 NRSA6AJ-332W MG RESISTOR 3.3kΩ, 1/16W

R1412 NRSA6AJ-332W MG RESISTOR 3.3kΩ, 1/16W

R1413 NRSA6AJ-332W MG RESISTOR 3.3kΩ, 1/16W

R1414 NRSA6AJ-332W MG RESISTOR 3.3kΩ, 1/16W

R1415 NRSA6AJ-223W MG RESISTOR 22kΩ, 1/16W

EF No.	PART No.	PART NAME, DESCRIPTION	#	REF No.	PART No.	PART NAME, DESCRIPTION	#	REF No.	PART No.	PART NAME, DESCRIPTION	#	REF No.	PART No.	PART NAME, DESCRIPTION
1416	NRVA6AD-153W	CMF RESISTOR												
1417	NRVA6AD-753W	CMF RESISTOR												
1418	NRSA6AJ-334W	MG RESISTOR												
1419	NRSA6AJ-0R0W	MG RESISTOR												
1421	NRVA6AD-153W	CMF RESISTOR												
1422	NRVA6AD-103W	CMF RESISTOR												
1423	NRSA6AJ-102W	MG RESISTOR												
1424	NRSA6AJ-102W	MG RESISTOR												
1425	NRSA6AJ-102W	MG RESISTOR												
1426	NRSA6AJ-102W	MG RESISTOR												
1427	NRVA6AD-683W	CMF RESISTOR												
1428	NRVA6AD-683W	CMF RESISTOR												
1429	NRVA6AD-820W	CMF RESISTOR												
1430	NRVA6AD-101W	CMF RESISTOR												
1431	NRSA6AJ-332W	MG RESISTOR												
1432	NRSA6AJ-332W	MG RESISTOR												
1433	NRSA6AJ-332W	MG RESISTOR												
1434	NRSA6AJ-122W	MG RESISTOR												
1435	NRSA6AJ-0R0W	MG RESISTOR												
1436	NRSA6AJ-0R0W	MG RESISTOR												
1437	NRSA6AJ-103W	MG RESISTOR												
1438	NRSA6AJ-474W	MG RESISTOR												
2102	NRSA6AJ-100W	MG RESISTOR												
2107	NRSA6AJ-0R0W	MG RESISTOR												
2108	NRSA6AJ-471W	MG RESISTOR												
2109	NRSA6AJ-471W	MG RESISTOR												
2110	NRSA6AJ-0R0W	MG RESISTOR												
2111	NRSA6AJ-0R0W	MG RESISTOR												
2112	NRSA6AJ-0R0W	MG RESISTOR												
2113	NRSA6AJ-0R0W	MG RESISTOR												
2114	NRSA6AJ-0R0W	MG RESISTOR												
2115	NRSA6AJ-0R0W	MG RESISTOR												
2116	NRSA6AJ-0R0W	MG RESISTOR												
2201	NRSA6AJ-0R0W	MG RESISTOR												
2206	NRSA6AJ-222W	MG RESISTOR												
2207	NRSA6AJ-0R0W	MG RESISTOR												
2210	NRSA6AJ-564W	MG RESISTOR												
2211	NRSA6AJ-564W	MG RESISTOR												
2212	NRSA6AJ-102W	MG RESISTOR												
2213	NRSA6AJ-102W	MG RESISTOR												
2216	NRSA6AJ-0R0W	MG RESISTOR												
2217	NRSA6AJ-0R0W	MG RESISTOR												
2218	NRSA6AJ-0R0W	MG RESISTOR												
2221	NRSA6AJ-105W	MG RESISTOR												
2224	NRSA6AJ-332W	MG RESISTOR												
2226	NRSA6AJ-0R0W	MG RESISTOR												
2227	NRSA6AJ-564W	MG RESISTOR												
2228	NRSA6AJ-0R0W	MG RESISTOR												
2229	NRSA6AJ-0R0W	MG RESISTOR												
2231	NRSA6AJ-0R0W	MG RESISTOR												
2232	NRSA6AJ-222W	MG RESISTOR												
2233	NRSA6AJ-0R0W	MG RESISTOR												
2234	NRSA6AJ-222W	MG RESISTOR												
2235	NRSA6AJ-103W	MG RESISTOR												
2260	NRSA6AJ-153W	MG RESISTOR												
2261	NRSA6AJ-0R0W	MG RESISTOR												
2262	NRSA6AJ-0R0W	MG RESISTOR												
2263	NRSA6AJ-103W	MG RESISTOR												
2264	NRSA6AJ-103W	MG RESISTOR												
2265	NRSA6AJ-0R0W	MG RESISTOR												
2273	NRSA6AJ-0R0W	MG RESISTOR												
R2274	NRSA6AJ-0R0W	MG RESISTOR												
R2275	NRSA6AJ-0R0W	MG RESISTOR												
R2401	NRSA6AJ-104W	MG RESISTOR												
R2402	NRSA6AJ-103W	MG RESISTOR												
R2403	NRSA6AJ-104W	MG RESISTOR												
R2405	NRSA6AJ-103W	MG RESISTOR												
R2406	NRSA6AJ-473W	MG RESISTOR												
R2411	NRSA6AD-163W	MG RESISTOR												
R2415	NRSA6AJ-0R0W	MG RESISTOR												
R2419	NRSA6AD-912W	MG RESISTOR												
R2501	NRSA6AJ-470W	MG RESISTOR												
R2502	NRSA6AJ-470W	MG RESISTOR												
R2503	NRSA6AJ-470W	MG RESISTOR												
R2507	NRSA6AJ-0R0W	MG RESISTOR												
R2509	NRSA6AJ-153W	MG RESISTOR												
R2510	NRSA6AJ-153W	MG RESISTOR												
R2511	NRSA6AJ-103W	MG RESISTOR												
R2512	NRSA6AJ-103W	MG RESISTOR												
R2513	NRSA6AJ-474W	MG RESISTOR												
R2514	NRSA6AJ-474W	MG RESISTOR												
R2515	NRSA6AJ-473W	MG RESISTOR												
R2516	NRSA6AJ-473W	MG RESISTOR												
R2517	NRSA6AJ-682W	MG RESISTOR												
R2518	NRSA6AJ-682W	MG RESISTOR												
R2519	NRSA6AJ-752W	MG RESISTOR												
R2520	NRSA6AJ-752W	MG RESISTOR												
R2551	NRSA6AJ-820W	MG RESISTOR												
R2552	NRSA6AJ-820W	MG RESISTOR												
R2553	NRSA6AJ-820W	MG RESISTOR												
R2554	NRSA6AJ-153W	MG RESISTOR												
R2555	NRSA6AJ-153W	MG RESISTOR												
R2556	NRVA6AD-104W	CMF RESISTOR												
R2557	NRVA6AD-102W	CMF RESISTOR												
R2558	NRSA6AJ-105W	MG RESISTOR												
R2559	NRSA6AJ-103W	MG RESISTOR												
R2560	NRSA6AJ-273W	MG RESISTOR												
R2562	NRVA6AD-153W	CMF RESISTOR												
R2563	NRVA6AD-393W	CMF RESISTOR												
R2564	NRSA6AJ-103W	MG RESISTOR												
R2565	NRSA6AJ-103W	MG RESISTOR												
R2567	NRSA6AJ-273W	MG RESISTOR												
R2568	NRSA6AJ-104W	MG RESISTOR												
R2569	NRSA6AJ-133W	MG RESISTOR												
R2570	NRSA6AJ-394W	MG RESISTOR												
R2571	NRSA6AJ-333W	MG RESISTOR												
R2572	NRSA6AJ-103W	MG RESISTOR												
R2573	NRSA6AJ-224W	MG RESISTOR												
R2574	NRSA6AJ-155W	MG RESISTOR												
R2575	NRSA6AJ-102W	MG RESISTOR												
R2576	NRSA6AJ-102W	MG RESISTOR												
R2601	NRSA6AJ-202X	MG RESISTOR												
R2602	NRSA6AJ-202X	MG RESISTOR												
R2603	NRSA6AJ-0R0W	MG RESISTOR												
R2604	NRSA6AJ-0R0W	MG RESISTOR												
R2605	NRSA6AJ-333W	MG RESISTOR												
R2606	NRSA6AJ-333W	MG RESISTOR												
R2609	NRSA6AJ-472W	MG RESISTOR												
R2610	NRSA6AJ-472W	MG RESISTOR												
R2611	NRSA6AJ-472W	MG RESISTOR												
R2612	NRSA6AJ-472W	MG RESISTOR												
R2613	NCB31HK-681X	CAPACITOR												
R2614	NCB31HK-681X	CAPACITOR												
R2615	NRVA6AD-222W	CMF RESISTOR												
R2616	NRSA6AJ-222W	MG RESISTOR												
R2617	NRSA6AJ-681W	MG RESISTOR												
R2618	NRSA6AJ-681W	MG RESISTOR												
R2619	NRVA6AD-222W	CMF RESISTOR												
R2621	NRSA6AJ-112W	MG RESISTOR												
R2622	NRSA6AJ-112W	MG RESISTOR												
R2623	NRSA6AJ-333W	MG RESISTOR												
R2624	NRSA6AJ-333W	MG RESISTOR												
R2625	NRSA6AJ-103W	MG RESISTOR												
R2626	NRSA6AJ-103W	MG RESISTOR												
R2629	NRSA6AJ-333W	MG RESISTOR												
R2630	NRSA6AJ-333W	MG RESISTOR												
R2701	NRSA6AJ-151W	MG RESISTOR												
R2702	NRSA6AJ-100W	MG RESISTOR												
R2705	NRSA6AJ-0R0W	MG RESISTOR												
R2706	NRSA6AJ-104W	MG RESISTOR												
R2709	NRSA6AJ-221W	MG RESISTOR												
R2710	NRSA6AJ-332W	MG RESISTOR												
R2711	NRSA6AJ-103W	MG RESISTOR												
R2712	NRSA6AJ-103W	MG RESISTOR												
R2713	NRSA6AJ-333W	MG RESISTOR												
R2714	NRSA6AJ-333W	MG RESISTOR												

REF ID	PART No	PART NAME DESCRIPTION	REF ID	PART No	PART NAME DESCRIPTION	REF ID	PART No	PART NAME DESCRIPTION	REF ID	PART No	PART NAME DESCRIPTION
3516	NRSA6AJ-331W	MG RESISTOR	330Ω, 1/16W	R3717	NRSA6AJ-222W	MG RESISTOR	2.2kΩ, 1/16W	C2207	NCB21AK-105X	CAPACITOR	1μF, 10V
3519	NRSA6AJ-562W	MG RESISTOR	5.6kΩ, 1/16W	R3718	NRVA6AD-472W	CMF RESISTOR	4.7kΩ, 1/16W	C2208	NCB21AK-105X	CAPACITOR	1μF, 10V
3520	NRSA6AJ-222W	MG RESISTOR	2.2kΩ, 1/16W	R3719	NRVA6AD-222W	CMF RESISTOR	2.2kΩ, 1/16W	C2210	NBE20JM-106X	T CAPACITOR	10μF, 6.3V
3521	NRSA6AJ-391W	MG RESISTOR	390Ω, 1/16W	R3720	NRSA6AJ-222W	MG RESISTOR	2.2kΩ, 1/16W	C2211	NCB31CK-104X	CAPACITOR	0.1μF, 16V
3522	NRSA6AJ-121W	MG RESISTOR	120Ω, 1/16W	R3721	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W	C2212	NCB31CK-104X	CAPACITOR	0.1μF, 16V
3523	NRSA6AJ-121W	MG RESISTOR	120Ω, 1/16W	R3722	NRSA6AJ-100W	MG RESISTOR	10Ω, 1/16W	C2213	NCBA1EK-472W	CAPACITOR	0.0047μF, 25V
3524	NRSA6AJ-121W	MG RESISTOR	120Ω, 1/16W	R3723	NRSA6AJ-100W	MG RESISTOR	10Ω, 1/16W	C2214	NCBA1EK-472W	CAPACITOR	0.0047μF, 25V
3525	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W	R3724	NRSA6AJ-103W	MG RESISTOR	10kΩ, 1/16W	C2215	NBE90JM-106X	T CAPACITOR	10μF, 6.3V
3526	NRSA6AJ-822W	MG RESISTOR	8.2kΩ, 1/16W	R3725	NRSA6AJ-103W	MG RESISTOR	10kΩ, 1/16W	C2216	NBE90JM-106X	T CAPACITOR	10μF, 6.3V
3527	NRSA6AJ-222W	MG RESISTOR	2.2kΩ, 1/16W	R3726	NRSA6AJ-821W	MG RESISTOR	820Ω, 1/16W	C2217	NBE90JM-106X	T CAPACITOR	10μF, 6.3V
3528	NRSA6AJ-221W	MG RESISTOR	220Ω, 1/16W	R3727	NRSA6AJ-821W	MG RESISTOR	820Ω, 1/16W	C2220	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W
3529	NRSA6AJ-562W	MG RESISTOR	5.6kΩ, 1/16W	R3731	NRSA6AJ-473W	MG RESISTOR	47kΩ, 1/16W	C2221	NCB21AK-105X	CAPACITOR	1μF, 10V
3530	NRSA6AJ-392W	MG RESISTOR	3.9kΩ, 1/16W	R3732	NRSA6AJ-472W	MG RESISTOR	4.7kΩ, 1/16W	C2222	NCB21AK-105X	CAPACITOR	1μF, 10V
3531	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W	R3734	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W	C2223	NCB31CK-563X	CAPACITOR	0.056μF, 16V
3532	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W	RA1401	NRZ0034-102W	NETWORK RESISTOR	10Ω, 1/16W	C2224	NCB31CK-563X	CAPACITOR	0.056μF, 16V
3533	NRSA6AJ-472W	MG RESISTOR	4.7kΩ, 1/16W	RA1402	NRZ0034-102W	NETWORK RESISTOR	10Ω, 1/16W	C2225	NCB31CK-563X	CAPACITOR	0.056μF, 16V
3534	NRSA6AJ-563W	MG RESISTOR	56kΩ, 1/16W	RA1403	NRZ0034-473W	NETWORK RESISTOR	47kΩ, 1/16W	C2226	NCB31CK-563X	CAPACITOR	0.056μF, 16V
3535	NRSA6AJ-564W	MG RESISTOR	560kΩ, 1/16W	RA3001	NRZ0034-0R0W	NETWORK RESISTOR	0Ω, 1/16W	C2237	NCB31CK-53X	CAPACITOR	0.015μF, 25V
3536	NRSA6AJ-392W	MG RESISTOR	3.9kΩ, 1/16W	RA3002	NRZ0034-0R0W	NETWORK RESISTOR	0Ω, 1/16W	C2238	NCB31CK-103W	CAPACITOR	0.015μF, 25V
3537	NRSA6AJ-561W	MG RESISTOR	560Ω, 1/16W	RA3003	NRZ0034-0R0W	NETWORK RESISTOR	0Ω, 1/16W	C2239	NCB31CK-273X	CAPACITOR	0.027μF, 16V
3538	NRSA6AJ-224W	MG RESISTOR	220kΩ, 1/16W	RA3004	NRZ0034-0R0W	NETWORK RESISTOR	0Ω, 1/16W	C2240	NCB31CK-273X	CAPACITOR	0.027μF, 16V
3539	NRSA6AJ-680W	MG RESISTOR	68Ω, 1/16W	RA3005	NRZ0034-0R0W	NETWORK RESISTOR	0Ω, 1/16W	C2243	NCBA1HK-102W	CAPACITOR	0.001μF, 50V
3540	NRSA6AJ-103W	MG RESISTOR	10kΩ, 1/16W	RA3201	NRZ0034-0R0W	NETWORK RESISTOR	0Ω, 1/16W	C2244	NCBA1HK-102W	CAPACITOR	0.001μF, 50V
3541	NRSA6AJ-392W	MG RESISTOR	3.9kΩ, 1/16W	RA3202	NRZ0034-0R0W	NETWORK RESISTOR	0Ω, 1/16W	C2401	NCBA1CK-103W	CAPACITOR	0.01μF, 16V
3542	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W	RA3203	NRZ0034-0R0W	NETWORK RESISTOR	0Ω, 1/16W	C2402	NCF31AZ-105X	CAPACITOR	1μF, 10V
3543	NRSA6AJ-103W	MG RESISTOR	10kΩ, 1/16W	C1401	NBE90JM-106X	T CAPACITOR	10μF, 6.3V	C2403	NBE90JM-106X	T CAPACITOR	10μF, 6.3V
3544	NRSA6AJ-152W	MG RESISTOR	1.5kΩ, 1/16W	C1402	NBE90JM-106X	T CAPACITOR	10μF, 6.3V	C2405	NCB31CK-104X	CAPACITOR	0.1μF, 16V
3545	NRSA6AJ-100W	MG RESISTOR	10Ω, 1/16W	C1403	NCFA1AZ-104W	CAPACITOR	0.1μF, 10V	C2407	NBEE0JM-476X	T CAPACITOR	47μF, 6.3V
3546	NRSA6AJ-152W	MG RESISTOR	1.5kΩ, 1/16W	C1404	NCFA1AZ-104W	CAPACITOR	0.1μF, 10V	C2501	NBE20JM-106X	T CAPACITOR	10μF, 6.3V
3547	NRSA6AJ-123W	MG RESISTOR	12kΩ, 1/16W	C1405	NCFA1AZ-104W	CAPACITOR	0.1μF, 10V	C2503	NCB21AK-105X	CAPACITOR	1μF, 10V
3548	NRSA6AJ-680W	MG RESISTOR	68Ω, 1/16W	C1406	NCFA1AZ-104W	CAPACITOR	0.1μF, 10V	C2504	NCB21AK-105X	CAPACITOR	1μF, 10V
3550	NRSA6AJ-471W	MG RESISTOR	470Ω, 1/16W	C1407	NCFA1AZ-104W	CAPACITOR	0.1μF, 10V	C2505	NCB21AK-105X	CAPACITOR	1μF, 10V
3551	NRSA6AJ-103W	MG RESISTOR	10kΩ, 1/16W	C1408	NCFA1AZ-104W	CAPACITOR	0.1μF, 10V	C2506	NCB21AK-105X	CAPACITOR	1μF, 10V
3553	NRSA6AJ-271W	MG RESISTOR	270Ω, 1/16W	C1409	NDCA1HJ-120W	CAPACITOR	120μF, 50V	C2507	NBE90JM-106X	T CAPACITOR	10μF, 6.3V
3554	NRSA6AJ-102W	MG RESISTOR	1kΩ, 1/16W	C1410	NDCA1HJ-120W	CAPACITOR	120μF, 50V	C2508	NBE90JM-106X	T CAPACITOR	10μF, 6.3V
3555	NRSA6AJ-152W	MG RESISTOR	1.5kΩ, 1/16W	C1411	NCBA1CK-223W	CAPACITOR	0.022μF, 16V	C2509	NDCA1HJ-101W	CAPACITOR	100μF, 50V
3556	NRSA6AJ-123W	MG RESISTOR	12kΩ, 1/16W	C1412	NCBA1CK-223W	CAPACITOR	0.022μF, 16V	C2510	NDCA1HJ-101W	CAPACITOR	100μF, 50V
3557	NRSA6AJ-680W	MG RESISTOR	68Ω, 1/16W	C1413	NCBA1CK-223W	CAPACITOR	0.022μF, 16V	C2511	NCB21AK-105X	CAPACITOR	1μF, 10V
3558	NRSA6AJ-102W	MG RESISTOR	1kΩ, 1/16W	C1414	NCBA1CK-223W	CAPACITOR	0.022μF, 16V	C2512	NCB21AK-105X	CAPACITOR	1μF, 10V
3559	NRSA6AJ-181W	MG RESISTOR	180Ω, 1/16W	C1415	NBE90JM-106X	T CAPACITOR	10μF, 6.3V	C2513	NCF21CZ-105X	CAPACITOR	1μF, 16V
3560	NRSA6AJ-181W	MG RESISTOR	180Ω, 1/16W	C1416	NCB21AK-105X	CAPACITOR	1μF, 10V	C2514	NCF21CZ-105X	CAPACITOR	1μF, 16V
3561	NRSA6AJ-102W	MG RESISTOR	1kΩ, 1/16W	C1417	NBE20JM-106X	T CAPACITOR	10μF, 6.3V	C2516	NCB21AK-105X	CAPACITOR	1μF, 10V
3562	NRSA6AJ-473W	MG RESISTOR	47kΩ, 1/16W	C2101	NBE20JM-106X	T CAPACITOR	10μF, 6.3V	C2517	NCB21AK-105X	CAPACITOR	1μF, 10V
3563	NRSA6AJ-392W	MG RESISTOR	3.9kΩ, 1/16W	C2102	NBE20JM-106X	T CAPACITOR	10μF, 6.3V	C2551	NBE20JM-106X	T CAPACITOR	10μF, 6.3V
3564	NRSA6AJ-124W	MG RESISTOR	120kΩ, 1/16W	C2103	NCB31CK-104X	CAPACITOR	0.1μF, 16V	C2552	NCBA1EK-472W	CAPACITOR	0.0047μF, 25V
3565	NRSA6AJ-563W	MG RESISTOR	56kΩ, 1/16W	C2104	NCB31CK-104X	CAPACITOR	0.1μF, 16V	C2553	NCBA1EK-472W	CAPACITOR	0.0047μF, 25V
3566	NRSA6AJ-472W	MG RESISTOR	4.7kΩ, 1/16W	C2105	NBE90JM-475X	T CAPACITOR	4.7μF, 6.3V	C2555	NCB21CK-474X	CAPACITOR	47μF, 16V
3570	NRSA6AJ-102W	MG RESISTOR	1kΩ, 1/16W	C2106	NCB31CK-104X	CAPACITOR	0.1μF, 16V	C2556	NCB21AK-105X	CAPACITOR	1μF, 10V
3702	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W	C2107	NCB21AK-105X	CAPACITOR	1μF, 10V	C2557	NDCA1HJ-470W	CAPACITOR	47μF, 50V
3703	NRSA6AJ-103W	MG RESISTOR	10kΩ, 1/16W	C2108	NCB21AK-105X	CAPACITOR	1μF, 10V	C2558	NCB31CK-104X	CAPACITOR	0.1μF, 16V
3704	NRSA6AJ-224W	MG RESISTOR	220kΩ, 1/16W	C2109	NCB31CK-104X	CAPACITOR	0.1μF, 16V	C2559	NBE90JM-106X	T CAPACITOR	10μF, 6.3V
3705	NRSA6AJ-121W	MG RESISTOR	120Ω, 1/16W	C2110	NCBA1HK-222W	CAPACITOR	0.0022μF, 50V	C2560	NBE90JM-106X	T CAPACITOR	10μF, 6.3V
3706	NRSA6AJ-225W	MG RESISTOR	2.2kΩ, 1/16W	C2111	NCBA1HK-222W	CAPACITOR	0.0022μF, 50V	C2601	NCB31EK-153X	CAPACITOR	0.015μF, 25V
3707	NRSA6AJ-103W	MG RESISTOR	10kΩ, 1/16W	C2112	NBE90JM-475X	T CAPACITOR	4.7μF, 6.3V	C2602	NCB31EK-153X	CAPACITOR	0.015μF, 25V
3708	NRSA6AJ-121W	MG RESISTOR	120Ω, 1/16W	C2113	NBE90JM-475X	T CAPACITOR	4.7μF, 6.3V	C2605	NCB21AK-105X	CAPACITOR	1μF, 10V
3709	NRSA6AJ-9R0W	MG RESISTOR	0Ω, 1/16W	C2114	NCB31CK-104X	CAPACITOR	0.1μF, 16V	C2606	NCB21AK-105X	CAPACITOR	1μF, 10V
3712	NRVA6AD-561W	CMF RESISTOR	560Ω, 1/16W	C2115	NCB31CK-104X	CAPACITOR	0.1μF, 16V	C2609	NCB21AK-105X	CAPACITOR	1μF, 10V
3713	NRVA6AD-103W	CMF RESISTOR	10kΩ, 1/16W	C2201	NBE20JM-106X	T CAPACITOR	10μF, 6.3V	C2610	NCBA1HJ-101W	CAPACITOR	1μF, 10V
3714	NRSA6AJ-561W	MG RESISTOR	560Ω, 1/16W	C2202	NBE20JM-106X	T CAPACITOR	10μF, 6.3V	C2611	NBE40JM-476X	T CAPACITOR	47μF, 6.3V
3715	NRVA6AD-472W	CMF RESISTOR	4.7kΩ, 1/16W	C2204	NBE40GM-107X	T CAPACITOR	100μF, 4.0V	C2612	NBE20JM-106X	T CAPACITOR	10μF, 6.3V
3716	NRVA6AD-222W	CMF RESISTOR	2.2kΩ, 1/16W	C2206	NBE40JM-476X	T CAPACITOR	10μF, 6.3V	C2613	NBE20JM-106X	T CAPACITOR	10μF, 6.3V

No	PART No	PART NAME DESCRIPTION	REF No	PART No	PART NAME DESCRIPTION	REF No	PART No	PART NAME DESCRIPTION	REF No	PART No	PART NAME DESCRIPTION
319	NCBA1CK-103W	CAPACITOR	C3537	NCBA1CK-103W	CAPACITOR	C3715	NDCA1HJ-330W	CAPACITOR			
3210	NCBA1CK-103W	CAPACITOR	C3538	NCBA1CK-103W	CAPACITOR	C3716	NDCA1HJ-220W	CAPACITOR			
3213	NCBA1CK-103W	CAPACITOR	C3539	NCBA1CK-103W	CAPACITOR	C3717	NBE60GM-337X	T CAPACITOR			
3216	NCBA1CK-103W	CAPACITOR	C3540	NCB31CK-104X	CAPACITOR	C3718	NCB21AK-105X	CAPACITOR			
3217	NCBA1CK-103W	CAPACITOR	C3541	NCBA1HK-331W	CAPACITOR	C3719	NBE90JM-106X	T CAPACITOR			
3218	NBE20JM-226X	T CAPACITOR	C3542	NCBA1CK-103W	CAPACITOR	C3720	NCB21AK-105X	CAPACITOR			
3219	NCBA1CK-103W	CAPACITOR	C3543	NCBA1CK-103W	CAPACITOR	L1401	NQL045K-100X	COIL			
3220	NCFA1AZ-104W	CAPACITOR	C3544	NCBA1HK-152W	CAPACITOR	L2101	NQL144K-100X	COIL			
3221	NCFA1AZ-104W	CAPACITOR	C3545	NCF21AZ-225X	CAPACITOR	L2201	NQL315K-100X	COIL			
3222	NCFA1AZ-104W	CAPACITOR	C3546	NCBA1CK-103W	CAPACITOR	L2401	NRSA63J-0R0X	MG RESISTOR			
3223	NCFA1AZ-104W	CAPACITOR	C3547	NCBA1HK-122W	CAPACITOR	L2402	NRSA63J-0R0X	MG RESISTOR			
3224	NCFA1AZ-104W	CAPACITOR	C3548	NCB21AK-105X	CAPACITOR	L2403	NRSA63J-0R0X	MG RESISTOR			
3225	NCFA1AZ-104W	CAPACITOR	C3549	NCBA1HK-102W	CAPACITOR	L2404	NRSA63J-0R0X	MG RESISTOR			
3226	NCBA1CK-103W	CAPACITOR	C3550	NCBA1CK-103W	CAPACITOR	L2601	NRSA63J-0R0X	MG RESISTOR			
3227	NCFA1AZ-104W	CAPACITOR	C3551	NCBA1CK-103W	CAPACITOR	L2602	NRSA63J-0R0X	MG RESISTOR			
3228	NCFA1AZ-104W	CAPACITOR	C3552	NDCA1HJ-470W	CAPACITOR	L2603	NRSA63J-0R0X	MG RESISTOR			
3229	NCFA1AZ-104W	CAPACITOR	C3553	NCBA1HK-681W	CAPACITOR	L2701	NRSA63J-0R0X	MG RESISTOR			
3230	NCFA1AZ-104W	CAPACITOR	C3554	NBE90JM-106X	T CAPACITOR	L2702	NRSA63J-0R0X	MG RESISTOR			
3231	NCFA1AZ-104W	CAPACITOR	C3555	NCBA1HK-152W	CAPACITOR	L3001	NQR0265-001X	FERRITE BEAD			
3232	NCFA1AZ-104W	CAPACITOR	C3556	NDCA1HJ-330W	CAPACITOR	L3002	NQR0265-001X	FERRITE BEAD			
3234	NCBA1CK-103W	CAPACITOR	C3557	NBE90JM-106X	T CAPACITOR	L3005	NQR0265-001X	FERRITE BEAD			
3235	NCBA1CK-103W	CAPACITOR	C3558	NCBA1CK-103W	CAPACITOR	L3006	NQR0265-001X	FERRITE BEAD			
3236	NCBA1CK-103W	CAPACITOR	C3559	NCBA1CK-103W	CAPACITOR	L3007	NQR0006-001X	FERRITE BEAD			
3238	NCBA1CK-103W	CAPACITOR	C3560	NBE40JM-476X	T CAPACITOR	L3010	NQL302N-100X	COIL			
3239	NCFA1AZ-104W	CAPACITOR	C3561	NCBA1CK-103W	CAPACITOR	L3201	NQR0265-001X	FERRITE BEAD			
3240	NCF31AZ-105X	CAPACITOR	C3562	NCBA1CK-103W	CAPACITOR	L3202	NQL085J-120X	COIL			
3241	NCF31AZ-105X	CAPACITOR	C3563	NCBA1CK-103W	CAPACITOR	L3204	NQR0265-001X	FERRITE BEAD			
3243	NCFA1AZ-104W	CAPACITOR	C3564	NCBA1CK-103W	CAPACITOR	L3207	NQR0006-001X	FERRITE BEAD			
3244	NCBA1CK-103W	CAPACITOR	C3565	NCBA1CK-103W	CAPACITOR	L3208	NQR0006-001X	FERRITE BEAD			
3501	NDCA1HJ-220W	CAPACITOR	C3566	NCBA1CK-103W	CAPACITOR	L3209	NQR0265-001X	FERRITE BEAD			
3502	NCFA1AZ-104W	CAPACITOR	C3567	NCBA1CK-103W	CAPACITOR	L3501	NQR0006-001X	FERRITE BEAD			
3503	NCBA1CK-103W	CAPACITOR	C3568	NCBA1CK-103W	CAPACITOR	L3503	NQR0006-001X	FERRITE BEAD			
3505	NCBA1CK-103W	CAPACITOR	C3569	NBE90JM-106X	T CAPACITOR	L3505	NQR0265-001X	FERRITE BEAD			
3506	NCBA1CK-103W	CAPACITOR	C3570	NCBA1HK-152W	CAPACITOR	L3506	NQR0006-001X	FERRITE BEAD			
3507	NCBA1CK-103W	CAPACITOR	C3571	NBE90JM-106X	T CAPACITOR	L3507	NQR0006-001X	FERRITE BEAD			
3508	NCBA1CK-103W	CAPACITOR	C3572	NCBA1CK-103W	CAPACITOR	L3508	NQL085J-220X	COIL			
3509	NCBA1CK-103W	CAPACITOR	C3573	NDCA1HJ-220W	CAPACITOR	L3509	NQL085J-220X	COIL			
3510	NCBA1HK-681W	CAPACITOR	C3574	NDCA1HJ-330W	CAPACITOR	L3510	NQR0006-001X	FERRITE BEAD			
3511	NCBA1CK-103W	CAPACITOR	C3575	NCBA1CK-103W	CAPACITOR	L3511	NQL315K-470X	COIL			
3512	NCBA1CK-103W	CAPACITOR	C3576	NBE90JM-106X	T CAPACITOR	L3512	NQL315K-470X	COIL			
3513	NCBA1CK-103W	CAPACITOR	C3577	NBE90JM-106X	T CAPACITOR	L3701	NQL302N-100X	COIL			
3514	NCBA1CK-103W	CAPACITOR	C3579	NBM90JM-106X	T CAPACITOR	L3702	NQL302N-100X	COIL			
3515	NCFA1AZ-104W	CAPACITOR	C3580	NBE90JM-106X	T CAPACITOR	X1401	NAX0218-001X	CRYSTAL RESONATOR			
3516	NCBA1CK-103W	CAPACITOR	C3581	NCBA1CK-103W	CAPACITOR	X3001	NAX0206-001X	CRYSTAL RESONATOR			
3517	NCFA1AZ-104W	CAPACITOR	C3582	NCBA1CK-103W	CAPACITOR	HS1	LY41437-001A	HEAT SINK(PWB)			
3518	NCFA1AZ-104W	CAPACITOR	C3583	NBE40JM-476X	T CAPACITOR	WR1	QAL0152-001	FPC			
3519	NCBA1CK-103W	CAPACITOR	C3584	NBE40JM-476X	T CAPACITOR	CN101	QGF0505F1-08X	FPC CONNECTOR			
3520	NCBA1CK-103W	CAPACITOR	C3585	NDCA1HJ-220W	CAPACITOR	CN102	QGB0505L1-C0X	CONNECTOR			
3521	NCBA1CK-103W	CAPACITOR	C3586	NCBA1CK-103W	CAPACITOR	CN103	QGF0505F2-06X	FPC CONNECTOR			
3522	NBE90JM-106X	T CAPACITOR	C3701	NCFA1AZ-104W	CAPACITOR	CN104	QGB0510M1-40X	CONNECTOR			
3523	NCBA1CK-103W	CAPACITOR	C3702	NBE20JM-226X	T CAPACITOR	CN105	QGF0505F1-13X	FPC CONNECTOR			
3524	NCBA1CK-103W	CAPACITOR	C3705	NCBA1CK-103W	CAPACITOR	CN106	QGF0301F1-57X	FPC CONNECTOR			
3525	NCBA1CK-103W	CAPACITOR	C3706	NBE90JM-106X	T CAPACITOR	CN107	QGA1201F2-03X	CONNECTOR			
3526	NCB31CK-273X	CAPACITOR	C3707	NCBA1CK-103W	CAPACITOR	CN108	QGB0801K2-18X	CONNECTOR			
3527	NCBA1CK-103W	CAPACITOR	C3708	NCBA1CK-103W	CAPACITOR	SD1	LY31059-001A	SHIELD CASE			
3528	NCB21AK-105X	CAPACITOR	C3709	NCFA1AZ-104W	CAPACITOR	OT1	LY30016-0P2A	SPACER-A			
3529	NCBA1CK-103W	CAPACITOR	C3710	NCFA1AZ-104W	CAPACITOR						
3531	NCBA1CK-103W	CAPACITOR	C3711	NCBA1CK-103W	CAPACITOR						
3532	NCBA1CK-103W	CAPACITOR	C3712	NCBA1CK-103W	CAPACITOR						
3533	NBE90JM-106X	T CAPACITOR	C3713	NBE90JM-106X	T CAPACITOR						
3534	NCBA1CK-103W	CAPACITOR	C3714	NDCA1HJ-330W	CAPACITOR						

MAIN2 BOARD ASSEMBLY <02>											
PW	YB10238C-01	MAIN2 BOARD ASSY									
IC1001	MN1021617FE1	IC									
	or MN102F1617HL-42	IC									
IC1002	UPD6461GS-938-X	IC									
IC1003	X25097M8-2.7-X	IC									
IC1004	RS5C314	IC									
IC1005	TC7S32FU	IC(DIGITAL)									
IC1006	TC7W04FU	IC(DIGITAL)									
IC1007	TC7W32FU	IC(DIGITAL)									
IC1008	TC7W08FU	IC(DIGITAL)									
IC1009	3A6417F	IC									
IC1010	TC7W32FU	IC(DIGITAL)									
IC1101	TA75W01FU	C									
IC1201	MB88346BPFV	IC									
IC4101	JCY0085	C									
IC4201	AD9200JST	C									
IC4202	AD9200JST	IC									
IC4203	TK11331BMC	IC									
IC4301	YQ44805A	ICSP IC ASSY									
IC4302	MSM5424331TS-AK	IC									
IC4802	TA75W01FU	IC									
IC4803	TA75W01FU	IC									
IC4804	NJM3414AV	IC									
IC4805	MM6564XFBE	IC									
IC4806	TC7W00FU	IC(DIGITAL)									
IC4851	UPD16835G3	IC									
IC5002	JCY0110	IC									
IC5101	CXA2096N	IC									
IC5102	CXA2096N	IC									
IC6601	TC7W74FU	IC(DIGITAL)									
Q1001	2SC4617/RS/-X	TRANSISTOR									
Q1002	DTA144EE	TRANSISTOR									
Q4803	2SC4655/BC/-X	TRANSISTOR									
Q4851	2SC4617/RS/-X	TRANSISTOR									
Q4852	2SC4617/RS/-X	TRANSISTOR									
Q6605	UN9211J	TRANSISTOR									
	or DTC114EE	TRANSISTOR									
Q6607	UN9114HJ	TRANSISTOR									
Q6609	DTC144EE	TRANSISTOR									
Q6610	UMS1N	PAIR TRANSISTOR									
Q6611	2SC4617/RS/-X	TRANSISTOR									
Q6612	UMS1N	PAIR TRANSISTOR									
Q6613	2SA1774/RS/-X	TRANSISTOR									
Q6614	XP1211	TRANSISTOR									
D1001	DAP222	DIODE									
D1002	SB007W03Q	SB DIODE									
D4101	1SS355	DIODE									
D4102	1SS355	DIODE									
D5004	MA732	SB DIODE									
R1001	NRSA6AJ-0R0W	MG RESISTOR								0Q.1-16W	
R1003	NRSA6AJ-104W	MG RESISTOR								100KQ.1-16W	
R1004	NRSA6AJ-0R0W	MG RESISTOR								0Q.1-16W	
R1005	NRSA6AJ-102W	MG RESISTOR								1KQ.1-16W	
R1006	NRSA6AJ-102W	MG RESISTOR								1KQ.1-16W	
R1007	NRSA6AJ-102W	MG RESISTOR								1KQ.1-16W	
R1008	NRSA6AJ-473W	MG RESISTOR								47KQ.1-16W	
R1009	NRSA6AJ-471W	MG RESISTOR								470Q.1-16W	

#	REF No.	PART No.	PART NAME DESCRIPTION
	RA4308	NRZ0034-221W	NETWORK RESISTOR 220Ω
	RA4309	NRZ0034-221W	NETWORK RESISTOR 220Ω
	RA4310	NRZ0034-221W	NETWORK RESISTOR 220Ω
	C1003	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C1005	NDCA1HJ-330W	CAPACITOR 33pF,50V
	C1006	NDCA1HJ-270W	CAPACITOR 27pF,50V
	C1008	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C1009	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C1010	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C1011	NCBA1CK-103W	CAPACITOR 0.01μF,16V
	C1012	NCBA1CK-103W	CAPACITOR 0.01μF,16V
	C1013	NDCA1HJ-120W	CAPACITOR 12pF,50V
	C1015	NCBA1CK-103W	CAPACITOR 0.01μF,16V
	C1016	NCBA1CK-103W	CAPACITOR 0.01μF,16V
	C1017	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C1018	NCBA1CK-103W	CAPACITOR 0.01μF,16V
	C1020	NCBA1CK-103W	CAPACITOR 0.01μF,16V
	C1021	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C1022	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C1023	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C1024	NCBA1CK-103W	CAPACITOR 0.01μF,16V
	C1025	NCBA1CK-103W	CAPACITOR 0.01μF,16V
	C1026	NCBA1CK-103W	CAPACITOR 0.01μF,16V
	C1030	NCBA1CK-103W	CAPACITOR 0.01μF,16V
	C1031	NBE91CM-105X	T CAPACITOR 1μF,16V
	C1032	NBE20JM-226X	T CAPACITOR 22μF,6.3V
	C1033	NBE20JM-226X	T CAPACITOR 22μF,6.3V
	C1034	NBE21AM-106X	T CAPACITOR 10μF,10V
	C1101	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C1102	NCB31EK-223X	CAPACITOR 0.022μF,25V
	C1103	NCB31EK-223X	CAPACITOR 0.022μF,25V
	C1105	NCBA1CK-103W	CAPACITOR 0.01μF,16V
	C1106	NCBA1CK-103W	CAPACITOR 0.01μF,16V
	C1107	NCBA1CK-103W	CAPACITOR 0.01μF,16V
	C1108	NCBA1CK-103W	CAPACITOR 0.01μF,16V
	C1111	NBE91AM-335X	T CAPACITOR 3.3μF,10V
	C1112	NBE90JM-106X	T CAPACITOR 10μF,6.3V
	C1201	NBE90JM-106X	T CAPACITOR 10μF,6.3V
	C1202	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C4102	NBP41CM-106X	T CAPACITOR 10μF,16V
	C4103	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C4105	NBP71VM-106X	T CAPACITOR 10μF,35V
	C4106	NCFA1HZ-103W	CAPACITOR 0.01μF,50V
	C4107	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C4108	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C4109	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C4110	NBE90JM-106X	T CAPACITOR 10μF,6.3V
	C4111	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C4112	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C4113	NCFA1HZ-103W	CAPACITOR 0.01μF,50V
	C4114	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C4115	NCFA1HZ-103W	CAPACITOR 0.01μF,50V
	C4116	NCF31EZ-104X	CAPACITOR 0.1μF,25V
	C4117	NBP21VM-105X	T CAPACITOR 1μF,35V
	C4118	NCF31EZ-104X	CAPACITOR 0.1μF,25V
	C4119	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C4120	NBM90JM-106X	T CAPACITOR 10μF,6.3V
	C4121	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C4122	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C4123	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C4124	NBE71AM-107X	T CAPACITOR 100μF,10V

#	REF No.	PART No.	PART NAME DESCRIPTION
	C4125	NBE71AM-107X	T CAPACITOR 100μF,10V
	C4201	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C4202	NBE90JM-106X	T CAPACITOR 10μF,6.3V
	C4203	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C4204	NBE90JM-106X	T CAPACITOR 10μF,6.3V
	C4205	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C4206	NBE90JM-106X	T CAPACITOR 10μF,6.3V
	C4207	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C4208	NBE90JM-106X	T CAPACITOR 10μF,6.3V
	C4209	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C4210	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C4211	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C4212	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C4213	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C4214	NBE90JM-106X	T CAPACITOR 10μF,6.3V
	C4215	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C4216	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C4217	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C4218	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C4219	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C4220	NBE90JM-106X	T CAPACITOR 10μF,6.3V
	C4221	NBE40JM-476X	T CAPACITOR 47μF,6.3V
	C4222	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C4223	NBE90JM-106X	T CAPACITOR 10μF,6.3V
	C4224	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C4225	NBE40JM-476X	T CAPACITOR 47μF,6.3V
	C4230	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C4231	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C4232	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C4233	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C4234	NBE90JM-106X	T CAPACITOR 10μF,6.3V
	C4235	NBE90JM-106X	T CAPACITOR 10μF,6.3V
	C4301	NBE90JM-106X	T CAPACITOR 10μF,6.3V
	C4302	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C4303	NBE90JM-106X	T CAPACITOR 10μF,6.3V
	C4304	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C4305	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C4306	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C4307	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C4308	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C4309	NCB31CK-104X	CAPACITOR 0.1μF,16V
	C4310	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C4311	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C4312	NCB31CK-104X	CAPACITOR 0.1μF,16V
	C4313	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C4314	NCFA1AZ-105X	CAPACITOR 0.1μF,10V
	C4315	NCF31AZ-105X	CAPACITOR 1μF,10V
	C4316	NCB31CK-104X	CAPACITOR 0.1μF,16V
	C4317	NBE90JM-106X	T CAPACITOR 10μF,6.3V
	C4318	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C4319	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C4320	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C4321	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C4322	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C4323	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C4324	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C4325	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C4326	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C4327	NBE90JM-106X	T CAPACITOR 10μF,6.3V
	C4330	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C4334	NCFA1AZ-104W	CAPACITOR 0.1μF,10V

#	REF No.	PART No.	PART NAME DESCRIPTION
	C4335	NDC31HK-101X	CAPACITOR 100pF,50V
	C4336	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C4338	NDC31HK-101X	CAPACITOR 100pF,50V
	C4339	NDC31HK-101X	CAPACITOR 100pF,50V
	C4801	NBE21AM-106X	T CAPACITOR 10μF,16V
	C4802	NCB31CK-104X	CAPACITOR 0.1μF,10V
	C4803	NBM90JM-106X	T CAPACITOR 10μF,6.3V
	C4804	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C4805	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C4806	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C4808	NCF21CZ-105X	CAPACITOR 1μF,16V
	C4809	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C4810	NCFA1HZ-103W	CAPACITOR 0.01μF,50V
	C4811	NCFA1HZ-103W	CAPACITOR 0.01μF,50V
	C4812	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C4813	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C4814	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C4815	NDC31HJ-331X	CAPACITOR 330pF,50V
	C4818	NCB31CK-104X	CAPACITOR 0.1μF,10V
	C4819	NCF21CZ-105X	CAPACITOR 1μF,16V
	C4821	NCB31CK-104X	CAPACITOR 0.1μF,16V
	C4822	NDC31HJ-101X	CAPACITOR 100pF,50V
	C4851	NBE90JM-106X	T CAPACITOR 10μF,6.3V
	C4852	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C4853	NBE91AM-335X	T CAPACITOR 3.3μF,10V
	C4854	NBE21AM-106X	T CAPACITOR 10μF,10V
	C4855	NCB31CK-104X	CAPACITOR 0.1μF,16V
	C4858	NDCA1HJ-330W	CAPACITOR 33pF,50V
	C4859	NCBA1HK-102W	CAPACITOR 0.001μF,50V
	C4860	NCBA1HK-102W	CAPACITOR 0.001μF,50V
	C4861	NCBA1HK-102W	CAPACITOR 0.001μF,50V
	C4862	NCBA1HK-102W	CAPACITOR 0.001μF,50V
	C4863	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C4864	NBE90JM-106X	T CAPACITOR 10μF,6.3V
	C4865	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C5009	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C5010	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C5011	NBE40JM-476X	T CAPACITOR 47μF,6.3V
	C5012	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C5013	NBE40JM-476X	T CAPACITOR 47μF,6.3V
	C5014	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C5028	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C5029	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C5030	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C5031	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C5032	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C5042	NCB20JK-225X	CAPACITOR 2.2μF,6.3V
	C5101	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C5102	NBE40JM-476X	T CAPACITOR 47μF,6.3V
	C5103	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C5104	NBE40JM-476X	T CAPACITOR 47μF,6.3V
	C5105	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C5106	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C5107	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C5108	NCF21CZ-105X	CAPACITOR 1μF,16V
	C5109	NCF21CZ-105X	CAPACITOR 1μF,16V
	C5110	NBE90JM-106X	T CAPACITOR 10μF,6.3V
	C5111	NBE90JM-106X	T CAPACITOR 10μF,6.3V
	C5112	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C5113	NCFA1AZ-104W	CAPACITOR 0.1μF,10V
	C5114	NCFA1AZ-104W	CAPACITOR 0.1μF,10V

#	REF No	PART No	PART NAME DESCRIPTION	
	C5115	NCFA1AZ-104W	CAPACITOR	0.1uF 10V
	C5116	NCF21CZ-105X	CAPACITOR	1uF 16V
	C5117	NCF21CZ-105X	CAPACITOR	1uF 16V
	C5118	NBE90JM-106X	T CAPACITOR	10uF 6.3V
	C5119	NBE90JM-106X	T CAPACITOR	10uF 6.3V
	C5120	NCFA1AZ-104W	CAPACITOR	0.1uF 10V
	C5121	NCFA1AZ-104W	CAPACITOR	0.1uF 10V
	C5122	NCFA1AZ-104W	CAPACITOR	0.1uF 10V
	C5123	NCFA1AZ-104W	CAPACITOR	0.1uF 10V
	C5124	NCFA1AZ-104W	CAPACITOR	0.1uF 10V
	C5125	NCFA1AZ-104W	CAPACITOR	0.1uF 10V
	C5126	NCFA1AZ-104W	CAPACITOR	0.1uF 10V
	C5127	NBE40JM-476X	T CAPACITOR	47uF 6.3V
	C5128	NBE40JM-476X	T CAPACITOR	47uF 6.3V
	C6604	NBE20JM-106X	T CAPACITOR	10uF 6.3V
	C6605	NCFA1CZ-473W	CAPACITOR	0.047uF 16V
	C6609	NCB31EK-153X	CAPACITOR	0.015uF 25V
	C6610	NDCA1EJ-221W	CAPACITOR	220pF 25V
	C6611	NDCA1EJ-121W	CAPACITOR	120pF 25V
	C6612	NCBA1HK-102W	CAPACITOR	0.001uF 50V
	C6613	NCBA1CK-103W	CAPACITOR	0.01uF 16V
	L1001	NQL315K-220X	COIL	22uH
	L1002	NQL315K-220X	COIL	22uH
	L1003	NQL315K-220X	COIL	22uH
	L1004	NQL315K-100X	COIL	10uH
	L1005	NQL184J-390X	COIL	39uH
	L1201	NQL302N-100X	COIL	10uH
	L4101	NQL045K-100X	COIL	10uH
	L4102	NQL315K-470X	COIL	47uH
	L4103	NQL045K-100X	COIL	10uH
	L4104	NQL045K-100X	COIL	10uH
	L4201	NQL045K-100X	COIL	10uH
	L4202	NQR0265-001X	FERRITE BEAD	
	L4203	NQL045K-100X	COIL	10uH
	L4204	NQR0265-001X	FERRITE BEAD	
	L4301	NQR0265-001X	FERRITE BEAD	
	L4302	NQR0265-001X	FERRITE BEAD	
	L4303	NQL045K-100X	COIL	10uH
	L4304	NQR0265-001X	FERRITE BEAD	
	L4801	NQL045K-100X	COIL	10uH
	L4802	NQL045K-100X	COIL	10uH
	L4803	NQR0265-001X	FERRITE BEAD	
	L4804	NQR0265-001X	FERRITE BEAD	
	L4851	NQR0129-002X	FERRITE BEAD	
	L4852	NQL165K-100X	COIL	10uH
	L4853	NQL045K-100X	COIL	10uH
	L5005	NQL045K-100X	COIL	10uH
	L5006	NQL045K-100X	COIL	10uH
	L5007	NQR0129-002X	FERRITE BEAD	
	L5009	NQR0129-002X	FERRITE BEAD	
	L5101	NQL045K-100X	COIL	10uH
	L5102	NQL045K-100X	COIL	10uH
	L6604	NQL302N-100X	COIL	10uH
	X1001	NAX0200-001X	C OSCILLATOR	
	X1002	NAX0282-001X	CRYSTAL RESONATOR	
	X5001	NAX0190-001X	CXO	
	CN201	QGB0502M1-C0X	CONNECTOR	
	CN202	QGB0510M1-30X	CONNECTOR	
	CN203	QGF0505F2-22X	FPC CONNECTOR	
	CN204	QGB0505M1-A0X	CONNECTOR	
	CN205	QGF0507F1-22X	FPC CONNECTOR	

REF NO	PART NO	PART NAME DESCRIPTION
CN206	QGF051F1-31X	FPC CONNECTOR
CN207	QGF051F2-08X	FPC CONNECTOR
CN208	QGF051F1-15X	FPC CONNECTOR
CN210	QGA1001F1-03X	CONNECTOR
SD1	LY41287-001B	SHIELD PLATE2
OT1	LY30016-0P3A	SPACER-A

REG BOARD ASSEMBLY <03>

PW	YB20651A-01	REG BOARD ASSY
IC6001	S-80A-241NP-W	IC
IC6002	S-3123155-5-QH-X	IC
IC6003	S-81331-3-K-B-X	IC
IC6004	S-80321A1NP-W	IC
IC6101	FA1001F	IC
IC6102	BA04A5FP	IC
Q6001	2SU501	MOS FET
Q6002	2SK1830	MOS FET
Q6003	2SK1830	MOS FET
Q6004	DT0144EE	TRANSISTOR
Q6005	2SU501	MOS FET
Q6006	2SA1774 RS-X	TRANSISTOR
Q6007	DT0144EE	TRANSISTOR
Q6008	2SU347	MOS FET
Q6101	CPH6302	MOS FET
Q6102	CPH6302	MOS FET
Q6103	CPH6302	MOS FET
Q6104	CPH6302	MOS FET
Q6105	CPH6302	MOS FET
Q6106	CPH6302	MOS FET
Q6107	2SA1774 QR-X	TRANSISTOR
Q6108	2SC4617 QR-X	TRANSISTOR
Q6109	2SC4081 S-X	TRANSISTOR
D6101	SFPB-72-W	SB DIODE
D6102	SFPB-72-W	SB DIODE
D6103	SFPB-72-W	SB DIODE
D6104	DWA010	SB DIODE
D6105	SB05-05CP-X	SB DIODE
D6106	SFPB-72-W	SB DIODE
D6107	SFPB-72-W	SB DIODE
D6108	1SS355	DIODE
D6109	1SS355	DIODE
Δ D6201	MA716	DIODE
R6001	NRSA6AJ-104W	MG RESISTOR 100kΩ, 1/16W
R6002	NRVA6AC-183W	CMF RESISTOR 18kΩ, 1/16W
R6003	NRSA6AJ-104W	MG RESISTOR 100kΩ, 1/16W
R6004	NRSA6AJ-102W	MG RESISTOR 1kΩ, 1/16W
R6005	NRVA6AD-104W	CMF RESISTOR 100kΩ, 1/16W
R6007	NRSA6AJ-104W	MG RESISTOR 100kΩ, 1/16W
R6008	NRSA6AJ-222W	MG RESISTOR 2.2kΩ, 1/16W
R6009	NRSA6AJ-104W	MG RESISTOR 100kΩ, 1/16W
R6010	NRSA6AJ-104W	MG RESISTOR 100kΩ, 1/16W
R6011	NRVA6AD-473W	CMF RESISTOR 47kΩ, 1/16W
R6012	NRVA6AD-823W	CMF RESISTOR 82kΩ, 1/16W
R6013	NRSA6AJ-0R0W	MG RESISTOR 0Ω, 1/16W
R6015	NRSA6AJ-104W	MG RESISTOR 100kΩ, 1/16W
R6016	NRSA6AJ-103W	MG RESISTOR 10kΩ, 1/16W

REF NO	PART NO	PART NAME DESCRIPTION
R6017	NRSA6AJ-562W	MG RESISTOR 56kΩ, 1/16W
R6018	NRSA6AJ-224W	MG RESISTOR 220kΩ, 1/16W
R6101	NRVA6AD-622W	CMF RESISTOR 6.2kΩ, 1/16W
R6102	NRSA6AJ-0R0W	MG RESISTOR 0Ω, 1/16W
R6103	NRSA6AJ-223W	MG RESISTOR 22kΩ, 1/16W
R6104	NRSA6AJ-223W	MG RESISTOR 22kΩ, 1/16W
R6105	NRSA6AJ-154W	MG RESISTOR 150kΩ, 1/16W
R6106	NRVA63D-114X	CMF RESISTOR 110kΩ, 1/16W
R6107	NRVA6AD-104W	CMF RESISTOR 100kΩ, 1/16W
R6108	NRSA6AJ-154W	MG RESISTOR 150kΩ, 1/16W
R6109	NRSA6AJ-682W	MG RESISTOR 6.8kΩ, 1/16W
R6110	NRVA6AD-133W	CMF RESISTOR 13kΩ, 1/16W
R6111	NRVA6AD-363W	CMF RESISTOR 36kΩ, 1/16W
R6112	NRSA6AJ-4R7W	MG RESISTOR 4.7Ω, 1/16W
R6113	NRVA6AD-363W	CMF RESISTOR 36kΩ, 1/16W
R6114	NRVA6AD-562W	CMF RESISTOR 5.6kΩ, 1/16W
R6115	NRSA6AJ-682W	MG RESISTOR 6.8kΩ, 1/16W
R6116	NRSA6AJ-223W	MG RESISTOR 22kΩ, 1/16W
R6117	NRSA6AJ-823W	MG RESISTOR 82kΩ, 1/16W
R6118	NRVA6AD-473W	CMF RESISTOR 47kΩ, 1/16W
R6119	NRVA6AD-562W	CMF RESISTOR 5.6kΩ, 1/16W
R6120	NRSA6AJ-822W	MG RESISTOR 8.2kΩ, 1/16W
R6121	NRSA6AJ-222W	MG RESISTOR 2.2kΩ, 1/16W
R6122	NRSA6AJ-4R7W	MG RESISTOR 4.7Ω, 1/16W
R6123	NRSA6AJ-4R7W	MG RESISTOR 4.7Ω, 1/16W
R6124	NRVA6AD-393W	CMF RESISTOR 39kΩ, 1/16W
R6125	NRVA6AD-103W	CMF RESISTOR 10kΩ, 1/16W
R6126	NRSA6AJ-4R7W	MG RESISTOR 4.7Ω, 1/16W
R6127	NRVA6AD-182W	CMF RESISTOR 1.8kΩ, 1/16W
R6128	NRVA6AD-273W	CMF RESISTOR 27kΩ, 1/16W
R6131	NRSA6AJ-391W	MG RESISTOR 390Ω, 1/16W
R6134	NRVA6AD-133W	CMF RESISTOR 13kΩ, 1/16W
R6135	NRVA6AD-103W	CMF RESISTOR 10kΩ, 1/16W
R6136	NRSA6AJ-473W	MG RESISTOR 47kΩ, 1/16W
R6137	NRSA6AJ-473W	MG RESISTOR 47kΩ, 1/16W
R6138	NRSA6AJ-472W	MG RESISTOR 4.7kΩ, 1/16W
R6139	NRSA6AJ-4R7W	MG RESISTOR 4.7Ω, 1/16W
R6140	NRVA6AD-223W	CMF RESISTOR 22kΩ, 1/16W
R6141	NRVA6AD-113W	CMF RESISTOR 11kΩ, 1/16W
R6143	NRSA6AJ-4R7W	MG RESISTOR 4.7Ω, 1/16W
R6144	NRSA6AJ-0R0W	MG RESISTOR 0Ω, 1/16W
R6145	NRSA6AJ-0R0W	MG RESISTOR 0Ω, 1/16W
R6146	NRSA6AJ-0R0W	MG RESISTOR 0Ω, 1/16W
R6147	NRSA6AJ-0R0W	MG RESISTOR 0Ω, 1/16W
R6148	NRSA6AJ-0R0W	MG RESISTOR 0Ω, 1/16W
R6153	NRSA6AJ-0R0W	MG RESISTOR 0Ω, 1/16W
Δ R6201	NRSA63J-102X	MG RESISTOR 1kΩ, 1/16W
R6202	NRSA63J-330X	MG RESISTOR 33Ω, 1/16W
C6001	NCB31CK-104X	CAPACITOR 0.1μF 16V
C6002	NCB31EK-103X	CAPACITOR 0.01μF 25V
C6003	NBP41CM-106X	T CAPACITOR 10μF 16V
C6004	NCB31CK-104X	CAPACITOR 0.1μF 16V
C6005	NBE20JM-225X	T CAPACITOR 22μF 6.3V
C6006	NBP41CM-106X	T CAPACITOR 10μF 16V
C6007	NCF21CZ-105X	CAPACITOR 1μF 16V
C6008	PECA1173	T CAPACITOR 100μF 4V
C6009	NCB31CK-104X	CAPACITOR 0.1μF 16V
C6010	NCB31EK-103X	CAPACITOR 0.01μF 25V
C6101	NCBA1HK-391W	CAPACITOR 390pF 50V
C6102	NCB31CK-104X	CAPACITOR 0.1μF 16V
C6103	NCBA1CK-103W	CAPACITOR 0.01μF 16V

REF NO	PART NO	PART NAME DESCRIPTION
C6104	NCB31CK-104X	CAPACITOR 0.1μF 16V
C6106	NCB21AK-105X	CAPACITOR 1μF 10V
C6107	NCB31CK-104X	CAPACITOR 0.1μF 16V
C6108	NCB31HK-562X	CAPACITOR 0.0056μF 50V
C6109	NCB31EK-103X	CAPACITOR 0.01μF 25V
C6110	NCB31EK-103X	CAPACITOR 0.01μF 25V
C6111	NCB31EK-103X	CAPACITOR 0.01μF 25V
C6112	NCB31AK-224X	CAPACITOR 0.22μF 10V
C6113	NCB31AK-224X	CAPACITOR 0.22μF 10V
C6115	NCB31CK-104X	CAPACITOR 0.1μF 16V
C6116	NCB31CK-104X	CAPACITOR 0.1μF 16V
C6117	NCB31CK-104X	CAPACITOR 0.1μF 16V
C6118	NCF21CZ-105X	CAPACITOR 1μF 16V
C6119	NBP41CM-106X	T CAPACITOR 10μF 16V
C6121	NCB21CK-224X	CAPACITOR 0.22μF 16V
C6121	NCB21CK-224X	CAPACITOR 0.22μF 16V
C6122	NCB21AK-105X	CAPACITOR 1μF 10V
C6123	NBE41AM-106X	T CAPACITOR 10μF 10V
C6124	NCB21AK-105X	CAPACITOR 1μF 10V
C6125	NCB31AK-225X	CAPACITOR 2.2μF 10V
C6126	NCB21AK-105X	CAPACITOR 1μF 10V
C6127	NBE41AM-225X	T CAPACITOR 22μF 10V
C6128	NCB21AK-105X	CAPACITOR 1μF 10V
C6129	NBG41AM-106X	T CAPACITOR 10μF 10V
C6130	NBG41AM-106X	T CAPACITOR 10μF 10V
C6131	NCB11AK-475X	CAPACITOR 4.7μF 10V
C6132	NCB11AK-225X	CAPACITOR 2.2μF 10V
C6134	NCBA1HK-471W	CAPACITOR 470pF 50V
C6135	NCB20JK-225X	CAPACITOR 2.2μF 6.3V
C6137	NCB11CK-105X	CAPACITOR 1μF 16V
C6138	NCB11CK-105X	CAPACITOR 1μF 16V
C6139	NBP51EM-106X	T CAPACITOR 10μF 25V
C6140	NBP21DM-475X	T CAPACITOR 4.7μF 20V
C6141	NBE41AM-226X	T CAPACITOR 22μF 10V
C6142	NCB21AK-105X	CAPACITOR 1μF 10V
C6144	NCB21AK-105X	CAPACITOR 1μF 10V
C6145	NCB11CK-105X	CAPACITOR 1μF 16V
C6146	NCB21AK-105X	CAPACITOR 1μF 10V
C6147	NCBA1HK-152W	CAPACITOR 0.0015μF 50V
C6148	NCB21AK-105X	CAPACITOR 1μF 10V
C6149	NDCA1HJ-330W	CAPACITOR 33pF 50V
C6150	NDCA1HJ-330W	CAPACITOR 33pF 50V
C6151	NCB21AK-105X	CAPACITOR 1μF 10V
C6153	NCB11CK-105X	CAPACITOR 1μF 16V
C6155	NCF21CZ-105X	CAPACITOR 1μF 16V
C6156	NCB20JK-225X	CAPACITOR 2.2μF 6.3V
C6157	NCB20JK-225X	CAPACITOR 2.2μF 6.3V
C6159	NCBA1HK-221W	CAPACITOR 220pF 50V
C6160	NCB11CK-105X	CAPACITOR 1μF 16V
C6161	NCB21AK-105X	CAPACITOR 1μF 10V
C6162	NCB21AK-105X	CAPACITOR 1μF 10V
C6163	NCB11CK-105X	CAPACITOR 1μF 10V
C6164	NCB20JK-225X	CAPACITOR 2.2μF 6.3V
C6165	NCB20JK-225X	CAPACITOR 2.2μF 6.3V
C6166	NCB21AK-105X	CAPACITOR 1μF 10V
C6169	NDCA1HJ-820W	CAPACITOR 82pF 50V
L6001	NQL315K-100X	COIL 22μH
L6101	NQL32CM-220X	COIL 22μH
L6102	NQL32CM-220X	COIL 22μH
L6103	NQL32CM-100X	COIL 10μH
L6104	NQL32CM-100X	COIL 10μH

REF NO	PART NO	PART NAME DESCRIPTION
L6105	NQL344K-100X	COIL 100μH
L6106	NQL315K-100X	COIL 100μH
L6107	NQL315K-100X	COIL 100μH
L6108	NQL315K-100X	COIL 100μH
L6109	NQL444K-470X	COIL 47μH
L6110	NQL32CM-100X	COIL 10μH
L6111	NQL32CM-100X	COIL 10μH
L6112	NQL32CM-100X	COIL 10μH
L6113	NQL35BK-100X	COIL 10μH
L6114	NQL32CM-100X	COIL 10μH
L6115	NQL315K-100X	COIL 100μH
L6116	NQL32CM-100X	COIL 10μH
L6117	NQL32CM-100X	COIL 10μH
L6118	NQL444K-100X	COIL 100μH
L6119	NQL32CM-100X	COIL 10μH
T6101	NQSC021-001X	SW TRANSF
CN301	QGB0512L2-A0X	CONNECTOR
CN302	QGA1205F1-05X	CONNECTOR
CN303	QGA1205F1-02X	CONNECTOR
F6101	NMF2006-2R0X-K	FUSE 72.6A
Δ F6102	NMF2006-2R0X-K	FUSE 72.6A
Δ F6103	NMF2006-RE0X-K	FUSE 70.5A
Δ F6104	NMF2005-R125XJ1	FUSE 70.1A
Δ F6105	NMF2006-RE0X-K	FUSE 70.5A
Δ F6106	NMF2006-2R0X-K	FUSE 72.6A
Δ BT301	QAB0009-001	LI BATTERY
SD1	LY41288-001C	SHIELD PLATE

MDA BOARD ASSEMBLY <04>

PW	YB20842A-03	MDA BOARD ASSY
IC1601	BA6865KV	IC
IC1602	BA6254FS	TR ARRAY
IC1603	BA6254FS	TR ARRAY
Q1601	UMC3N	TRANSISTOR
D1602	DAP222	DIODE
D1603	DAP222	DIODE
D1604	DAP222	DIODE
R1601	NRSA63J-681X	MG RESISTOR 680Ω, 1/16W
R1602	NRSA63J-124X	MG RESISTOR 120kΩ, 1/16W
R1603	NRSA63J-472X	MG RESISTOR 4.7kΩ, 1/16W
R1604	NRSA63J-104X	MG RESISTOR 100kΩ, 1/16W
R1605	NRSA63J-223X	MG RESISTOR 22kΩ, 1/16W
R1606	NRV142F-R22X	CMF RESISTOR 0.22Ω, 1.4V
R1609	NRS12BK-R68W	MG RESISTOR 0.68Ω, 1.2V
R1610	NRSA63J-102X	MG RESISTOR 1kΩ, 1/16W
R1611	NRSA63J-102X	MG RESISTOR 1kΩ, 1/16W
R1612	NRSA63J-274X	MG RESISTOR 270kΩ, 1/16W
R1613	NRSA63J-272X	MG RESISTOR 2.7kΩ, 1/16W
R1614	NRSA63J-154X	MG RESISTOR 150kΩ, 1/16W
R1615	NRSA63J-474X	MG RESISTOR 470kΩ, 1/16W
R1616	NRVA63D-202X	CMF RESISTOR 2kΩ, 1/16W
R1617	NRSA63J-473X	MG RESISTOR 47kΩ, 1/16W
R1618	NRSA63J-203X	MG RESISTOR 20kΩ, 1/16W
R1619	NRSA63J-393X	MG RESISTOR 39kΩ, 1/16W
R1620	NRSA63J-103X	MG RESISTOR 10kΩ, 1/16W
R1621	NRSA63J-103X	MG RESISTOR 10kΩ, 1/16W

#	REF No	PART No	PART NAME DESCRIPTION
R1622	NRSA63J-100X	MG RESISTOR	10kΩ, 1/16W
R1623	NRSA63J-100X	MG RESISTOR	10kΩ, 1/16W
R1625	NRSA63J-511X	MG RESISTOR	510Ω, 1/16W
R1626	NRSA63J-511X	MG RESISTOR	510Ω, 1/16W
R1627	NRSA63J-511X	MG RESISTOR	510Ω, 1/16W
R1628	NRSA63J-511X	MG RESISTOR	510Ω, 1/16W
R1629	NRSA63J-105X	MG RESISTOR	1MΩ, 1/16W
R1630	NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W
R1631	NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W
R1634	NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W
R1635	NRSA63J-472X	MG RESISTOR	4.7kΩ, 1/16W
R1636	NRSA63J-103X	MG RESISTOR	10kΩ, 1/16W
R1637	NRSA63J-120X	MG RESISTOR	120kΩ, 1/16W
R1642	NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W
C1601	NCB31EK-100X	CAPACITOR	0.01μF, 25V
C1602	NBE21AM-100X	T CAPACITOR	10μF, 10V
C1603	NBE21AM-100X	T CAPACITOR	10μF, 10V
C1605	NCB31CK-104X	CAPACITOR	0.1μF, 16V
C1606	NCB31HK-152X	CAPACITOR	0.0015μF, 50V
C1607	NCB31EK-100X	CAPACITOR	0.01μF, 25V
C1608	NCB31EK-100X	CAPACITOR	0.01μF, 25V
C1609	NCB31EK-100X	CAPACITOR	0.01μF, 25V
C1610	NCB31EK-100X	CAPACITOR	0.01μF, 25V
C1611	NCB31EK-100X	CAPACITOR	0.01μF, 25V
C1612	NCB31EK-100X	CAPACITOR	0.01μF, 25V
C1613	NCB31EK-100X	CAPACITOR	0.01μF, 25V
C1614	NBP41CM-106X	T CAPACITOR	10μF, 16V
C1615	NCB31CK-104X	CAPACITOR	0.1μF, 16V
C1616	NCB31CK-104X	CAPACITOR	0.1μF, 16V
C1617	NCB31CK-104X	CAPACITOR	0.1μF, 16V
C1618	NCB31EK-223X	CAPACITOR	0.022μF, 25V
C1619	NCB31EK-223X	CAPACITOR	0.022μF, 25V
C1620	NCB31EK-223X	CAPACITOR	0.022μF, 25V
C1621	NCB21AK-105X	CAPACITOR	1μF, 10V
C1622	NCB31CK-104X	CAPACITOR	0.1μF, 16V
C1623	NCB31CK-104X	CAPACITOR	0.1μF, 16V
C1625	NCB31CK-104X	CAPACITOR	0.1μF, 16V
C1626	NCB31EK-223X	CAPACITOR	0.022μF, 25V
C1627	NCB31CK-473X	CAPACITOR	0.047μF, 16V
C1628	NCB21EK-104X	CAPACITOR	0.1μF, 25V
C1632	NBE21AM-106X	T CAPACITOR	10μF, 10V
C1633	NCF21CZ-684X	CAPACITOR	0.68μF, 16V
C1635	NCB21EK-104X	CAPACITOR	0.1μF, 25V
C1638	NCB21CK-224X	CAPACITOR	0.22μF, 16V
C1639	NCB21CK-224X	CAPACITOR	0.22μF, 16V
C1640	NCB21CK-224X	CAPACITOR	0.22μF, 16V
S1601	NSW0095-001X	DETECT SWITCH	
CN401	QGF0507F1-15X	FPC CONNECTOR	
CN402	QGF0505F2-18X	FPC CONNECTOR	
CN403	QGF0505F2-11X	FPC CONNECTOR	
CN404	QGF0505F2-06X	FPC CONNECTOR	
CN405	QGB0510L1-40X	CONNECTOR	
OT1	LY30016-0M2A	SPACER-A	

STROBE BOARD ASSEMBLY <05>

PW1	YB20844C1-01	STROBE BOARD ASSY
IC1801	NAL0006-001X	IR SENSOR UNIT

#	REF No	PART No	PART NAME DESCRIPTION
IC6502	TC7SET08FU	IC(DIGITAL)	
Q1801	2SC4617/QRS/-X	TRANSISTOR	
Q2801	2SD1979/S/-X	TRANSISTOR	
Q6501	2SB1462J/RS/-X	TRANSISTOR	
Q6502	UN9211J	TRANSISTOR	
	or DTC114EE	TRANSISTOR	
△ Q6503	2SB1124/ST/-X	TRANSISTOR	
△ Q6504	2SD1628/FG/-X	TRANSISTOR	
Q6506	CT25A5J-8-X	TRANSISTOR	
D1801	SLA-380LT3F	LE DIODE	
D2801	RD5.6S/BY/-X	ZENER DIODE	
D6501	F1F16	DIODE	
D6502	DA121	DIODE	
D6503	F1SN4	DIODE	
D6504	FIN4	DIODE	
R1801	NRSA6AJ-391W	MG RESISTOR	390Ω, 1/16W
R1802	NRSA6AJ-470W	MG RESISTOR	47Ω, 1/16W
R1803	NRSA6AJ-103W	MG RESISTOR	10kΩ, 1/16W
R2801	NQR0251-004X	FERRITE BEAD	
R2802	NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W
R2803	NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W
R2804	NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W
R2805	NQR0251-004X	FERRITE BEAD	
R2806	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W
R2807	NRSA6AJ-680W	MG RESISTOR	68Ω, 1/16W
R2808	NQR0251-004X	FERRITE BEAD	
R2809	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W
R2810	NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W
R2811	NRSA6AJ-103W	MG RESISTOR	10kΩ, 1/16W
R2812	NRSA6AJ-103W	MG RESISTOR	10kΩ, 1/16W
R2813	NRSA6AJ-183W	MG RESISTOR	18kΩ, 1/16W
R2814	NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W
R6501	NRSA63J-5R6X	MG RESISTOR	5.6Ω, 1/16W
R6502	NRSA63J-4R7X	MG RESISTOR	4.7Ω, 1/16W
R6504	NRSA6AJ-471W	MG RESISTOR	470Ω, 1/16W
R6505	NRSA6AJ-222W	MG RESISTOR	2.2kΩ, 1/16W
R6506	NRSA6AJ-152W	MG RESISTOR	1.5kΩ, 1/16W
R6507	NRSA02J-106X	MG RESISTOR	10MΩ, 1/10W
R6508	NRVA63D-184X	CMF RESISTOR	180kΩ, 1/16W
R6511	NRSA6AJ-473W	MG RESISTOR	47kΩ, 1/16W
R6514	NRSA02J-105X	MG RESISTOR	1MΩ, 1/10W
R6515	NRS181J-220X	MG RESISTOR	22Ω, 1/8W
R6516	NRSA02J-104X	MG RESISTOR	100kΩ, 1/10W
R6519	NRSA02J-106X	MG RESISTOR	10MΩ, 1/10W
R6520	NRSA6AJ-330W	MG RESISTOR	33Ω, 1/16W
R6527	NRSA6AJ-391W	MG RESISTOR	390Ω, 1/16W
C1801	NBE90JM-106X	T CAPACITOR	10μF, 6.3V
C2801	NCB31HK-122X	CAPACITOR	0.0012μF, 50V
C2802	NFV41HJ-102X	MPPS CAPACITOR	0.001μF, 50V
C2803	NFV41HJ-272X	MPPS CAPACITOR	0.0027μF, 50V
C2804	NCB31HK-472X	CAPACITOR	0.0047μF, 50V
C2806	NCBA1HK-821W	CAPACITOR	820pF, 50V
C2807	NCBA1EK-472W	CAPACITOR	0.0047μF, 25V
C6501	NBE41AM-336X	T CAPACITOR	33μF, 10V
C6502	NBE41AM-226X	T CAPACITOR	22μF, 10V
C6503	NCBA1CK-103W	CAPACITOR	0.01μF, 16V
C6506	NCZ1008-333X	CAPACITOR	0.033μF
C6507	NCZ1019-273X	CAPACITOR	0.027μF
C6508	NCBA1CK-103W	CAPACITOR	0.01μF, 16V
C6512	QE20447-506	E CAPACITOR	50μF, 300V
C6515	NCZ1019-273X	CAPACITOR	0.027μF

#	REF No	PART No	PART NAME DESCRIPTION	
	L2801	NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W
	L2802	NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W
	L2803	NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W
	L2804	NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W
△	L6501	NQS0015-002	SW TRANSF	
	L6502	NQL302N-100X	COIL	10μH
	L6503	NQL044K-470X	COIL	47μH
	J501	QNS0078-001	3.5 JACK	
	J502	QNS0005-001	3.5 JACK	
	CN501	QGF0505F2-13X	FPC CONNECTOR	
	CN502	QGF0505F2-22X	FPC CONNECTOR	
	UN1	LY30732-002A	STROBE ASSY	
	OT1	LY30016-0K7A	SPACER-A	
	OT2	LY30016-0K6A	SPACER-A	

J/A/D-IF BOARD ASSEMBLY <06>

PW	YB10239B-02	J/A,D-IF BOARD ASSY	
IC8001	TSB13LV11GGB	IC(DIGITAL)	
R3751	NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W
R3752	NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W
R3753	NRSA02J-680X	MG RESISTOR	68Ω, 1/10W
R3754	NRSA02J-680X	MG RESISTOR	68Ω, 1/10W
R3755	NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W
R3758	NRSA63J-221X	MG RESISTOR	220Ω, 1/16W
R3759	NRSA63J-331X	MG RESISTOR	330Ω, 1/16W
R3760	NRSA63J-221X	MG RESISTOR	220Ω, 1/16W
R8001	NRSA63J-103X	MG RESISTOR	10kΩ, 1/16W
R8002	NRSA63J-103X	MG RESISTOR	10kΩ, 1/16W
R8003	NRSA63J-103X	MG RESISTOR	10kΩ, 1/16W
R8004	NRSA63J-103X	MG RESISTOR	10kΩ, 1/16W
R8005	NRSA63J-103X	MG RESISTOR	10kΩ, 1/16W
R8006	NRSA63J-104X	MG RESISTOR	100kΩ, 1/16W
R8007	NRSA63J-103X	MG RESISTOR	10kΩ, 1/16W
R8008	NRSA63J-103X	MG RESISTOR	10kΩ, 1/16W
R8009	NRSA63J-103X	MG RESISTOR	10kΩ, 1/16W
R8010	NRSA63J-103X	MG RESISTOR	10kΩ, 1/16W
R8011	NRSA63J-103X	MG RESISTOR	10kΩ, 1/16W
R8012	NRSA63J-103X	MG RESISTOR	10kΩ, 1/16W
R8013	NRSA63J-103X	MG RESISTOR	10kΩ, 1/16W
R8014	NRSA63J-103X	MG RESISTOR	10kΩ, 1/16W
R8015	NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W
R8016	NRSA63J-270X	MG RESISTOR	27Ω, 1/16W
R8017	NRSA63J-103X	MG RESISTOR	10kΩ, 1/16W
R8018	NRSA63J-103X	MG RESISTOR	10kΩ, 1/16W
R8019	NRSA63J-103X	MG RESISTOR	10kΩ, 1/16W
R8020	NRSA63J-103X	MG RESISTOR	10kΩ, 1/16W
R8021	NRSA63J-103X	MG RESISTOR	10kΩ, 1/16W
R8022	NRSA63J-103X	MG RESISTOR	10kΩ, 1/16W
R8023	NRSA63J-394X	MG RESISTOR	390kΩ, 1/16W
R8024	NRSA63J-332X	MG RESISTOR	3.3kΩ, 1/16W
R8025	NRSA63J-272X	MG RESISTOR	2.7kΩ, 1/16W
R8026	NRSA63J-103X	MG RESISTOR	10kΩ, 1/16W
R8027	NRSA63J-103X	MG RESISTOR	10kΩ, 1/16W
R8028	NRSA63J-103X	MG RESISTOR	10kΩ, 1/16W
R8029	NRSA63J-103X	MG RESISTOR	10kΩ, 1/16W
R8030	NRSA63J-103X	MG RESISTOR	10kΩ, 1/16W

#	REF No	PART No	PART NAME DESCRIPTION
R8031	NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W
R8032	NRVA63D-512X	CMF RESISTOR	5.1kΩ, 1/16W
R8033	NRVA63D-560X	CMF RESISTOR	56Ω, 1/16W
R8034	NRVA63D-560X	CMF RESISTOR	56Ω, 1/16W
R8035	NRVA63D-560X	CMF RESISTOR	56Ω, 1/16W
R8036	NRVA63D-560X	CMF RESISTOR	56Ω, 1/16W
R8041	NRS002K-470X	MG RESISTOR	56Ω, 1/10W
R8042	NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W
RA8001	NRZ0034-0R0W	NETWORK RESISTOR	0Ω
RA8002	NRZ0034-0R0W	NETWORK RESISTOR	0Ω
RA8003	NRZ0034-0R0W	NETWORK RESISTOR	0Ω
RA8004	NRZ0034-0R0W	NETWORK RESISTOR	0Ω
RA8005	NRZ0034-0R0W	NETWORK RESISTOR	0Ω
C3751	NBE60GM-337X	T CAPACITOR	330μF, 4.0V
C8001	NBE90JM-106X	T CAPACITOR	10μF, 6.3V
C8002	NCB31CK-104X	CAPACITOR	0.1μF, 16V
C8003	NBE90JM-106X	T CAPACITOR	10μF, 6.3V
C8004	NCB31CK-104X	CAPACITOR	0.1μF, 16V
C8005	NCB31HK-103X	CAPACITOR	0.01μF, 50V
C8006	NCB31HK-103X	CAPACITOR	0.01μF, 50V
C8007	NCB31HK-103X	CAPACITOR	0.01μF, 50V
C8008	NCB31HK-103X	CAPACITOR	0.01μF, 50V
C8009	NCB31HK-103X	CAPACITOR	0.01μF, 50V
C8010	NCB31HK-103X	CAPACITOR	0.01μF, 50V
C8011	NCB31HK-102X	CAPACITOR	0.001μF, 50V
C8012	NCB31CK-104X	CAPACITOR	0.01μF, 50V
C8013	NCB31HK-103X	CAPACITOR	0.01μF, 50V
C8014	NBE90JM-106X	T CAPACITOR	10μF, 6.3V
C8015	NCB31CK-104X	CAPACITOR	0.1μF, 16V
C8016	NCB31HK-103X	CAPACITOR	0.01μF, 50V
C8017	NCB31CK-104X	CAPACITOR	0.01μF, 50V
C8018	NCB31HK-103X	CAPACITOR	0.01μF, 50V
C8019	NCB31CK-104X	CAPACITOR	0.01μF, 16V
C8020	NDC31HJ-271X	CAPACITOR	270pF, 50V
L8001	NQR0265-001X	FERRITE BEAD	
L8002	NQR0265-001X	FERRITE BEAD	
L8003	NQR0006-001X	FERRITE BEAD	
L8004	NQR0276-001X	COIL	
J601	QND0004-001	S JACK	
J602	LY40710-002A	JACK UNIT	
J8001	QNZ0118-001	D CONNECTOR	
CN601	QGF0301F1-57X	FPC CONNECTOR	
CN602	QGA1201C2-02X	CONNECTOR	

MONITOR BOARD ASSEMBLY <07>

PW	YB10240B-01	MONITOR BOARD ASSY
IC7201	MM1385XN	IC
IC7202	TK11900M	IC
IC7203	MM1385XN	IC
IC7301	AN2533FH	IC
IC7302	NM25C020LZEM8	IC
IC7401	CXA2503AR	IC
IC7402	TC7SET08FU	IC(DIGITAL)
IC7403	TC7S04FU	IC
IC7404	TC7SH08FU	IC(DIGITAL)

REF NO	PART NO	PART NAME DESCRIPTION
Q7201	2SA1577-QR-X	TRANSISTOR
Q7202	DTC144EE	TRANSISTOR
or RN1104		TRANSISTOR
Q7203	2SA1577-QR-X	TRANSISTOR
Q7204	DTC144EE	TRANSISTOR
or RN1104		TRANSISTOR
Q7205	DTC144EE	TRANSISTOR
or RN1104		TRANSISTOR
Q7206	2SC4617-QR-X	TRANSISTOR
Q7207	DTA144EE	TRANSISTOR
or RN2104		TRANSISTOR
Q7208	2SA1774-QR-X	TRANSISTOR
Q7209	DTC144EE	TRANSISTOR
or RN1104		TRANSISTOR
Q7210	2SA1774-QR-X	TRANSISTOR
Q7211	DTC144EE	TRANSISTOR
or RN1104		TRANSISTOR
Q7301	2SC4617-QR-X	TRANSISTOR
or 2SC4738-YG-X		TRANSISTOR
Q7351	2SC4617-QR-X	TRANSISTOR
or 2SC4738-YG-X		TRANSISTOR
Q7352	2SA1774-QR-X	TRANSISTOR
or 2SA1832-YG-X		TRANSISTOR
Q7353	2SC4617-QR-X	TRANSISTOR
or 2SC4738-YG-X		TRANSISTOR
Q7354	2SA1774-QR-X	TRANSISTOR
or 2SA1832-YG-X		TRANSISTOR
Q7355	2SC4617-QR-X	TRANSISTOR
or 2SC4738-YG-X		TRANSISTOR
Q7356	2SA1774-QR-X	TRANSISTOR
or 2SA1832-YG-X		TRANSISTOR
Q7357	2SC4617-QR-X	TRANSISTOR
or 2SC4738-YG-X		TRANSISTOR
Q7358	2SA1774-QR-X	TRANSISTOR
or 2SA1832-YG-X		TRANSISTOR
Q7359	DTA144EE	TRANSISTOR
or RN2104		TRANSISTOR
Q7401	UMZ1N	PAIR TRANSISTOR
Q7402	2SC4617-QR-X	TRANSISTOR
or 2SC4738-YG-X		TRANSISTOR
Q7201	MA111	DIODE
Q7351	RB471E	SB DIODE
Q7401	MA365	VARI CAP DIODE
R7201	NRVA63D-311X	CMF RESISTOR 910K, 1/16W
R7202	NRVA63D-183X	CMF RESISTOR 18K, 1/16W
R7203	NRVA63D-222X	CMF RESISTOR 2.2K, 1/16W
R7251	NRSA63J-103X	MG RESISTOR 10K, 1/16W
R7252	NRSA63J-103X	MG RESISTOR 10K, 1/16W
R7253	NRSA63J-103X	MG RESISTOR 10K, 1/16W
R7254	NRSA63J-103X	MG RESISTOR 10K, 1/16W
R7255	NRSA63J-103X	MG RESISTOR 10K, 1/16W
R7256	NRSA63J-103X	MG RESISTOR 10K, 1/16W
R7257	NRSA63J-152X	MG RESISTOR 1.5K, 1/16W
R7258	NRSA63J-182X	MG RESISTOR 1.8K, 1/16W
R7259	NRSA63J-222X	MG RESISTOR 2.2K, 1/16W
R7260	NRSA63J-103X	MG RESISTOR 10K, 1/16W
R7261	NRSA63J-103X	MG RESISTOR 10K, 1/16W
R7262	NRSA63J-103X	MG RESISTOR 10K, 1/16W
R7263	NRSA63J-103X	MG RESISTOR 10K, 1/16W
R7264	NRSA63J-223X	MG RESISTOR 22K, 1/16W
R7265	NRSA63J-103X	MG RESISTOR 10K, 1/16W

REF NO	PART NO	PART NAME DESCRIPTION
R7266	NRSA63J-183X	MG RESISTOR 18K, 1/16W
R7267	NRSA63J-103X	MG RESISTOR 10K, 1/16W
R7268	NRSA63J-222X	MG RESISTOR 2.2K, 1/16W
R7269	NRSA63J-103X	MG RESISTOR 10K, 1/16W
R7270	NRSA63J-222X	MG RESISTOR 2.2K, 1/16W
R7301	NRSA63J-222X	MG RESISTOR 2.2K, 1/16W
R7303	NRSA63J-102X	MG RESISTOR 1K, 1/16W
R7305	NRSA63J-153X	MG RESISTOR 15K, 1/16W
R7306	NRVA63D-103X	CMF RESISTOR 10K, 1/16W
R7308	NRVA63D-104X	CMF RESISTOR 100K, 1/16W
R7309	NRSA63J-561X	MG RESISTOR 560K, 1/16W
R7310	NRSA63J-222X	MG RESISTOR 2.2K, 1/16W
R7311	NRSA63J-222X	MG RESISTOR 2.2K, 1/16W
R7312	NRSA63J-222X	MG RESISTOR 2.2K, 1/16W
R7313	NRSA63J-0R0X	MG RESISTOR 0, 1/16W
R7315	NRSA63J-473X	MG RESISTOR 47K, 1/16W
R7316	NRSA63J-0R0X	MG RESISTOR 0, 1/16W
R7317	NRSA63J-0R0X	MG RESISTOR 0, 1/16W
R7318	NRSA63J-0R0X	MG RESISTOR 0, 1/16W
R7319	NRSA63J-0R0X	MG RESISTOR 0, 1/16W
R7320	NRSA63J-0R0X	MG RESISTOR 0, 1/16W
R7321	NRSA63J-0R0X	MG RESISTOR 0, 1/16W
R7322	NRVA63D-101X	CMF RESISTOR 100K, 1/16W
R7323	NRVA63D-101X	CMF RESISTOR 100K, 1/16W
R7324	NRVA63D-101X	CMF RESISTOR 100K, 1/16W
R7351	NRVA63D-222X	CMF RESISTOR 2.2K, 1/16W
R7352	NRVA63D-222X	CMF RESISTOR 2.2K, 1/16W
R7353	NRVA63D-222X	CMF RESISTOR 2.2K, 1/16W
R7354	NRVA63D-222X	CMF RESISTOR 2.2K, 1/16W
R7355	NRVA63D-222X	CMF RESISTOR 2.2K, 1/16W
R7356	NRVA63D-222X	CMF RESISTOR 2.2K, 1/16W
R7360	NRSA63J-683X	MG RESISTOR 68K, 1/16W
R7361	NRSA63J-123X	MG RESISTOR 12K, 1/16W
R7362	NRSA63J-123X	MG RESISTOR 12K, 1/16W
R7363	NRSA63J-222X	MG RESISTOR 2.2K, 1/16W
R7364	NRSA63J-221X	MG RESISTOR 220K, 1/16W
R7367	NRVA63D-184X	CMF RESISTOR 180K, 1/16W
R7368	NRVA63D-752X	CMF RESISTOR 7.5K, 1/16W
R7369	NRVA63D-473X	CMF RESISTOR 47K, 1/16W
R7370	NRSA63J-123X	MG RESISTOR 12K, 1/16W
R7371	NRSA63J-123X	MG RESISTOR 12K, 1/16W
R7372	NRSA63J-222X	MG RESISTOR 2.2K, 1/16W
R7373	NRSA63J-221X	MG RESISTOR 220K, 1/16W
R7374	NRSA63J-223X	MG RESISTOR 22K, 1/16W
R7375	NRVA63D-223X	CMF RESISTOR 22K, 1/16W
R7376	NRVA63D-223X	CMF RESISTOR 22K, 1/16W
R7377	NRSA63J-0R0X	MG RESISTOR 0, 1/16W
R7378	NRSA63J-0R0X	MG RESISTOR 0, 1/16W
R7379	NRSA63J-0R0X	MG RESISTOR 0, 1/16W
R7380	NRSA63J-0R0X	MG RESISTOR 0, 1/16W
R7382	NRSA63J-105X	MG RESISTOR 1M, 1/16W
R7401	NRVA63D-243X	CMF RESISTOR 24K, 1/16W
R7402	NRVA63D-334X	CMF RESISTOR 330K, 1/16W
R7403	NRSA63J-104X	MG RESISTOR 100K, 1/16W
R7404	NRSA63J-103X	MG RESISTOR 10K, 1/16W
R7405	NRSA63J-473X	MG RESISTOR 47K, 1/16W
R7406	NRSA63J-0R0X	MG RESISTOR 0, 1/16W
R7410	NRVA63D-562X	CMF RESISTOR 5.6K, 1/16W
R7411	NRVA63D-562X	CMF RESISTOR 5.6K, 1/16W
R7412	NRSA63J-222X	MG RESISTOR 2.2K, 1/16W
R7413	NRSA63J-561X	MG RESISTOR 560K, 1/16W

REF NO	PART NO	PART NAME DESCRIPTION
R7414	NRSA63J-751X	MG RESISTOR 750K, 1/16W
R7416	NRSA63J-102X	MG RESISTOR 1K, 1/16W
R7417	NRSA63J-274X	MG RESISTOR 270K, 1/16W
R7418	NRSA63J-103X	MG RESISTOR 10K, 1/16W
R7419	NRSA63J-102X	MG RESISTOR 1K, 1/16W
R7420	NRSA63J-333X	MG RESISTOR 33K, 1/16W
R7421	NRSA63J-103X	MG RESISTOR 10K, 1/16W
R7422	NRVA63D-122X	CMF RESISTOR 1.2K, 1/16W
R7423	NRVA63D-182X	CMF RESISTOR 1.8K, 1/16W
R7425	NRVA63D-202X	CMF RESISTOR 2K, 1/16W
R7426	NRVA63D-433X	CMF RESISTOR 43K, 1/16W
R7427	NRVA63D-563X	CMF RESISTOR 56K, 1/16W
R7428	NRSA63J-0R0X	MG RESISTOR 0, 1/16W
R7429	NRVA63D-563X	CMF RESISTOR 56K, 1/16W
R7430	NRVA63D-223X	CMF RESISTOR 22K, 1/16W
R7431	NRSA63J-222X	MG RESISTOR 2.2K, 1/16W
R7432	NRSA63J-222X	MG RESISTOR 2.2K, 1/16W
R7433	NRSA63J-0R0X	MG RESISTOR 0, 1/16W
R7434	NRSA63J-0R0X	MG RESISTOR 0, 1/16W
R7435	NRSA63J-0R0X	MG RESISTOR 0, 1/16W
C7201	NCB21AK-105X	CAPACITOR 1uF 10V
C7202	NCB31HK-103X	CAPACITOR 0.01uF 50V
C7203	NBE20JM-106X	T CAPACITOR 10uF 6.3V
C7205	NCB31HK-103X	CAPACITOR 0.01uF 50V
C7206	NBP41DM-106X	T CAPACITOR 10uF 20V
C7207	NCB21AK-105X	CAPACITOR 1uF 10V
C7208	NCB31HK-103X	CAPACITOR 0.01uF 50V
C7209	NBE20JM-106X	T CAPACITOR 10uF 6.3V
C7210	NBP21DM-475X	T CAPACITOR 4.7uF 25V
C7212	NBP51EM-106X	T CAPACITOR 10uF 25V
C7301	NCB21AK-105X	CAPACITOR 1uF 10V
C7302	NCB31HK-103X	CAPACITOR 0.01uF 50V
C7303	NBE20JM-106X	T CAPACITOR 10uF 6.3V
C7304	NBE20JM-106X	T CAPACITOR 10uF 6.3V
C7305	NCB21AK-105X	CAPACITOR 1uF 10V
C7306	NCB21AK-105X	CAPACITOR 1uF 10V
C7307	NBP21CM-225X	T CAPACITOR 2.2uF 16V
C7308	NCB11CK-105X	CAPACITOR 1uF 16V
C7309	NCB31HK-103X	CAPACITOR 0.01uF 50V
C7310	NBP21CM-225X	T CAPACITOR 2.2uF 16V
C7311	NBP21CM-225X	T CAPACITOR 2.2uF 16V
C7312	NBE20JM-475X	T CAPACITOR 4.7uF 6.3V
C7313	NCB31HK-103X	CAPACITOR 0.01uF 50V
C7314	NBE20JM-225X	T CAPACITOR 2.2uF 6.3V
C7315	NCB31HK-822X	CAPACITOR 0.0082uF 50V
C7316	NBE20JM-475X	T CAPACITOR 4.7uF 6.3V
C7318	NDC31HJ-471X	CAPACITOR 470pF 50V
C7319	NCB31HK-881X	CAPACITOR 680pF 50V
C7320	NCB21AK-105X	CAPACITOR 1uF 10V
C7321	NCB31CK-104X	CAPACITOR 0.1uF 16V
C7322	NCB31CK-104X	CAPACITOR 0.1uF 16V
C7323	NBP21CM-475X	T CAPACITOR 4.7uF 16V
C7324	NCB31CK-104X	CAPACITOR 0.1uF 16V
C7325	NCB21AK-105X	CAPACITOR 1uF 10V
C7326	NCB21AK-105X	CAPACITOR 1uF 10V
C7331	NCB31CK-104X	CAPACITOR 0.1uF 16V
C7351	NCB21AM-475X	T CAPACITOR 4.7uF 10V
C7352	NBE21AM-475X	T CAPACITOR 4.7uF 10V
C7353	NBE21AM-475X	T CAPACITOR 4.7uF 10V
C7354	NBP21CM-225X	T CAPACITOR 2.2uF 16V
C7355	NBP41EM-475X	T CAPACITOR 4.7uF 25V

REF NO	PART NO	PART NAME DESCRIPTION
C7356	NCB31CK-104X	CAPACITOR 0.1uF 16V
C7360	NBE20JM-475X	T CAPACITOR 4.7uF 6.3V
C7361	NCB31HK-103X	CAPACITOR 0.01uF 50V
C7362	NBE20JM-475X	T CAPACITOR 4.7uF 6.3V
C7363	NCB31HK-103X	CAPACITOR 0.01uF 50V
C7364	NCB31CK-104X	CAPACITOR 0.1uF 16V
C7401	NBP21CM-105X	T CAPACITOR 1uF 16V
C7402	NCB31CK-104X	CAPACITOR 0.1uF 16V
C7403	NCB21AK-105X	CAPACITOR 0.1uF 16V
C7404	NCB31CK-104X	CAPACITOR 0.1uF 16V
C7405	NCB31CK-104X	CAPACITOR 0.1uF 16V
C7406	NCB31CK-102X	CAPACITOR 3.001uF 30V
C7410	NCB21AK-105X	CAPACITOR 1uF 10V
C7411	NCB31CK-103X	CAPACITOR 3.001uF 50V
C7412	NCB21AK-105X	CAPACITOR 1uF 10V
C7413	NCB21AK-105X	CAPACITOR 1uF 10V
C7414	NCB21AK-225X	CAPACITOR 2.2uF 6.3V
C7415	NCB31CK-332X	CAPACITOR 3.303uF 50V
C7416	NCB31CK-221X	CAPACITOR 220pF 50V
C7417	NCB31CK-103X	CAPACITOR 3.001uF 50V
C7418	NCB31CK-680X	CAPACITOR 680pF 50V
C7419	NBE20JM-106X	T CAPACITOR 10uF 6.3V
C7420	NCB31CK-103X	CAPACITOR 0.01uF 50V
C7421	NCB31CK-104X	CAPACITOR 0.1uF 16V
C7422	NCB31CK-104X	CAPACITOR 0.1uF 16V
C7423	NCB31CK-104X	CAPACITOR 0.1uF 16V
C7424	NCB31HK-103X	CAPACITOR 0.01uF 50V
C7426	NCB31HK-103X	CAPACITOR 0.01uF 50V
C7427	NCB31CK-103X	CAPACITOR 0.01uF 50V
C7428	NBE20JM-106X	T CAPACITOR 10uF 6.3V
C7429	NCB31CK-104X	CAPACITOR 0.1uF 16V
C7430	NCB31CK-104X	CAPACITOR 0.1uF 16V
C7431	NCB31CK-103X	CAPACITOR 0.01uF 50V
C7432	NCB21AK-105X	CAPACITOR 1uF 10V
C7433	NCB31HK-103X	CAPACITOR 0.01uF 50V
C7435	NCB21AK-105X	CAPACITOR 1uF 10V
L7201	NQL144K-100X	COIL 10uH
L7202	NQL144K-100X	COIL 10uH
L7203	NQL144K-220X	COIL 22uH
L7204	NQL144M-1R0X	COIL 1uH
L7205	NQL144K-100X	COIL 10uH
L7206	NQL144K-220X	COIL 22uH
L7207	NQL144K-220X	COIL 22uH
L7208	NQL315K-220X	COIL 22uH
L7301	NQL144K-220X	COIL 22uH
L7351	NQL144K-220X	COIL 22uH
L7352	NQL144K-220X	COIL 22uH
L7401	NQL085J-100X	COIL 10uH
S7251	NSW0079-001	ROTARY ENCODER
S7252	NSW0008-001X	TACT SWITCH
S7253	NSW0008-001X	TACT SWITCH
S7254	NSW0120-001X	TACT SWITCH
S7255	DSW0003-001	PUSH SWITCH
CN7201	QGF0301F1-51X	FPC CONNECTOR
CN7202	QGF0501F1-22X	FPC CONNECTOR
CN7203	QGF0301F1-33X	FPC CONNECTOR
CN7204	QGF0503F1-06X	FPC CONNECTOR
SD1	LY41462-001B	SHIELD(MONI.PI)

REF No. PART No. PART NAME DESCRIPTION

CCD BOARD ASSEMBLY <08>

PW	YB20841A-02	CCD BOARD ASSY	
Q5203	2SK662/PQR-X	MOS FET	
Q5204	2SK662/PQR-X	MOS FET	
D5201	1SS355	DIODE	
R5201	NRSA6AJ-104W	MG RESISTOR	100KΩ, 1/16W
R5204	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W
R5207	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W
R5208	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W
R5209	NRSA6AJ-0R0W	MG RESISTOR	0Ω, 1/16W
R5210	NRSA6AJ-473W	MG RESISTOR	47KΩ, 1/16W
R5212	NRSA6AJ-472W	MG RESISTOR	4.7KΩ, 1/16W
R5213	NRSA6AJ-472W	MG RESISTOR	4.7KΩ, 1/16W
C5201	NCFA1AZ-104W	CAPACITOR	0.1μF, 10V
C5202	NCFA1AZ-104W	CAPACITOR	0.1μF, 10V
C5203	NBP41CM-106X	T CAPACITOR	10μF, 16V
C5204	NCFA1HZ-103W	CAPACITOR	0.01μF, 50V
C5205	NCFA1HZ-103W	CAPACITOR	0.01μF, 50V
C5206	NBP41VM-225X	T CAPACITOR	2.2μF, 35V
C5207	NCFA1AZ-104W	CAPACITOR	0.1μF, 10V
C5208	NCFA1HZ-103W	CAPACITOR	0.01μF, 50V
C5209	NCF31EZ-104X	CAPACITOR	0.1μF, 25V
C5210	NBP21EM-105X	T CAPACITOR	1μF, 25V
C5213	NBE91CM-105X	T CAPACITOR	1μF, 16V
C5214	NBE91CM-105X	T CAPACITOR	1μF, 16V
C5216	NCFA1AZ-104W	CAPACITOR	0.1μF, 10V
L5201	NQR0129-002X	FERRITE BEAD	
L5202	NQR0129-002X	FERRITE BEAD	
L5203	NQL045K-100X	COIL	10μH
L5204	NQL045K-100X	COIL	10μH
CN801	QGB0510L1-30X	CONNECTOR	
SD1	LY41286-001A	CCD SHIELD	
OT1	LY41255-001A	SHEET(CCD)	
OT2	LY30016-0L3B	SPACER-A	

W/B BOARD ASSEMBLY <09>

PW2	YB20844C2-01	W/B BOARD ASSY	
Q91	RPM-22PB	PHOTO TRANSISTOR	
R91	NRSA63J-302X	MG RESISTOR	3kΩ, 1/16W
C91	NBE20JM-226X	T CAPACITOR	22μF, 6.3V
L91	NQR0285-001X	FERRITE BEAD	
WR1	WJM0068-001B	E-SI C WIRE C-F	

MONITOR BL BOARD ASSEMBLY <11>

PW1	YB10241A3-03	MONITOR BL BOARD ASSY	
Q7601	DTC144EE	TRANSISTOR	
	or RN1104	TRANSISTOR	
Q7602	DTA144EE	TRANSISTOR	

REF No.	PART No.	PART NAME DESCRIPTION	
	or RN2104	TRANSISTOR	
Q7603	FX507	PAIR TRANSISTOR	
R7601	NRSA63J-102X	MG RESISTOR	1kΩ, 1/16W
R7602	NRSA63J-681X	MG RESISTOR	
R7604	NRSA63J-681X	MG RESISTOR	
R7605	NRSA63J-101X	MG RESISTOR	100Ω, 1/16W
C7601	NCB31HK-103X	CAPACITOR	0.01μF, 50V
C7602	NCB31HK-103X	CAPACITOR	0.01μF, 50V
C7603	NCB31HK-103X	CAPACITOR	0.01μF, 50V
C7604	NCB31HK-103X	CAPACITOR	0.01μF, 50V
C7610	NBE51AM-476X	T CAPACITOR	47μF, 10V
C7611	NFV41HJ-153X	MPPS CAPACITOR	0.015μF, 50V
C7612	NCZ1021-270X	CAPACITOR	150F
C7613	NCZ1016-220X	CAPACITOR	22pF
L7601	NQL2008-100X	COIL	10μH
L7602	NQL2008-101X	COIL	100μH
TH7601	NAD0019-471X	P THERMISTOR	
T7601	NQS0033-001	SW TRANSF	
CN7601	QGF0505F2-16X	FPC CONNECTOR	
CN7602	QGF0505F2-16X	FPC CONNECTOR	
CN7603	QGF0505F1-24X	FPC CONNECTOR	
F7601	NMF2006-R40X-K	FUSE	T0.4A

VF SUB BOARD ASSEMBLY <12>

PW3	YB10241A2-01	VF SUB BOARD ASSY	
R7650	NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W
R7651	NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W
R7652	NRSA63J-0R0X	MG RESISTOR	0Ω, 1/16W
C7650	NCB31CK-104X	CAPACITOR	0.1μF, 16V
C7651	NCB31CK-104X	CAPACITOR	0.1μF, 16V
CN7650	QGF0501F1-20X	FPC CONNECTOR	
CN7651	QGF0505F2-16X	FPC CONNECTOR	
CN7652	QGB0801L1-20X	CONNECTOR	

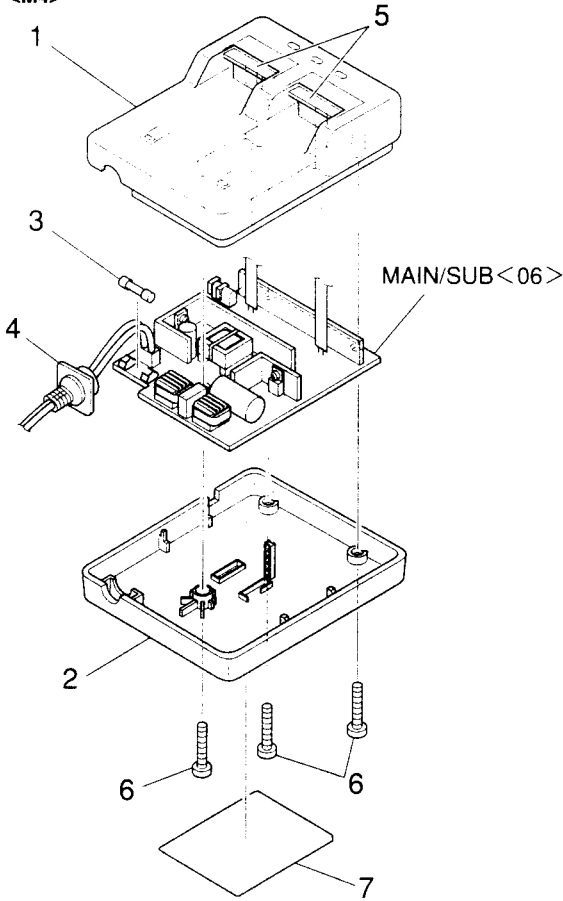
VF BL BOARD ASSEMBLY <13>

PW2	YB10241A1-01	VF BL BOARD ASSY	
Q7670	2SK2055	MOS FET	
R7670	NRSA63J-104X	MG RESISTOR	100KΩ, 1/16W
C7670	NCB31CK-104X	CAPACITOR	0.1μF, 16V
C7671	NBP41CM-226X	T CAPACITOR	22μF, 16V
L7670	NQL144K-220X	COIL	22μH
T7670	NQH0004-001X	FB TRANSF	
BL7670	NLL0004-001	LAMP	
CN7670	QGB0801M1-20X	CONNECTOR	
SD1	LY41261-001A	SHIELD SHEET	
OT1	LY30016-0A3A	SPACER-A	

SECTION 6
AC POWER ADAPTER

SAFETY PRECAUTION
Parts identified by the ⚠ symbol are critical for safety. Replace only with specified part numbers.

6.1 CABINET ASSEMBLY <M4>

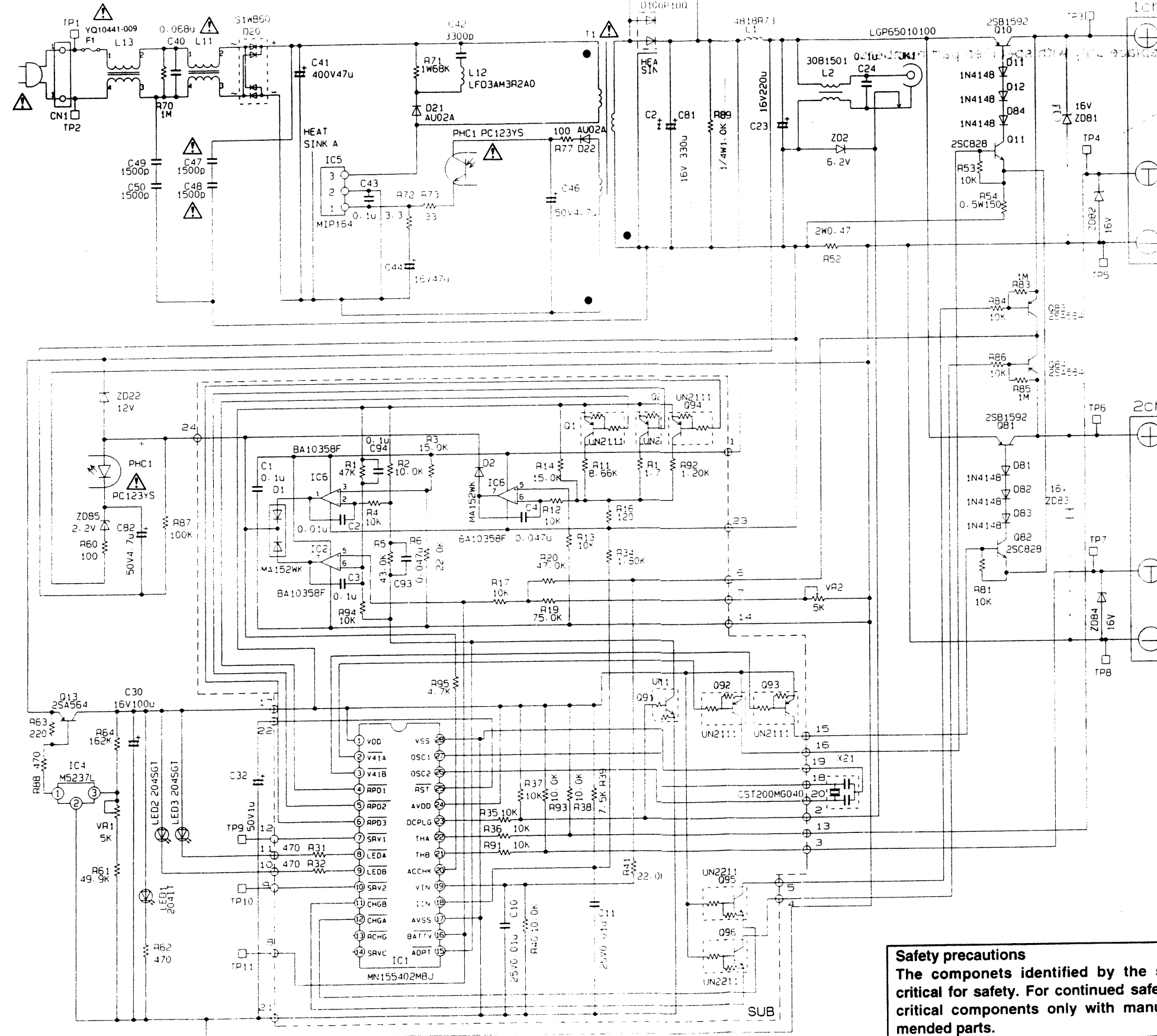


#	REF NO.	PART NO.	PART NAME, DESCRIPTION	#	REF NO.	PART NO.	PART NAME, DESCRIPTION

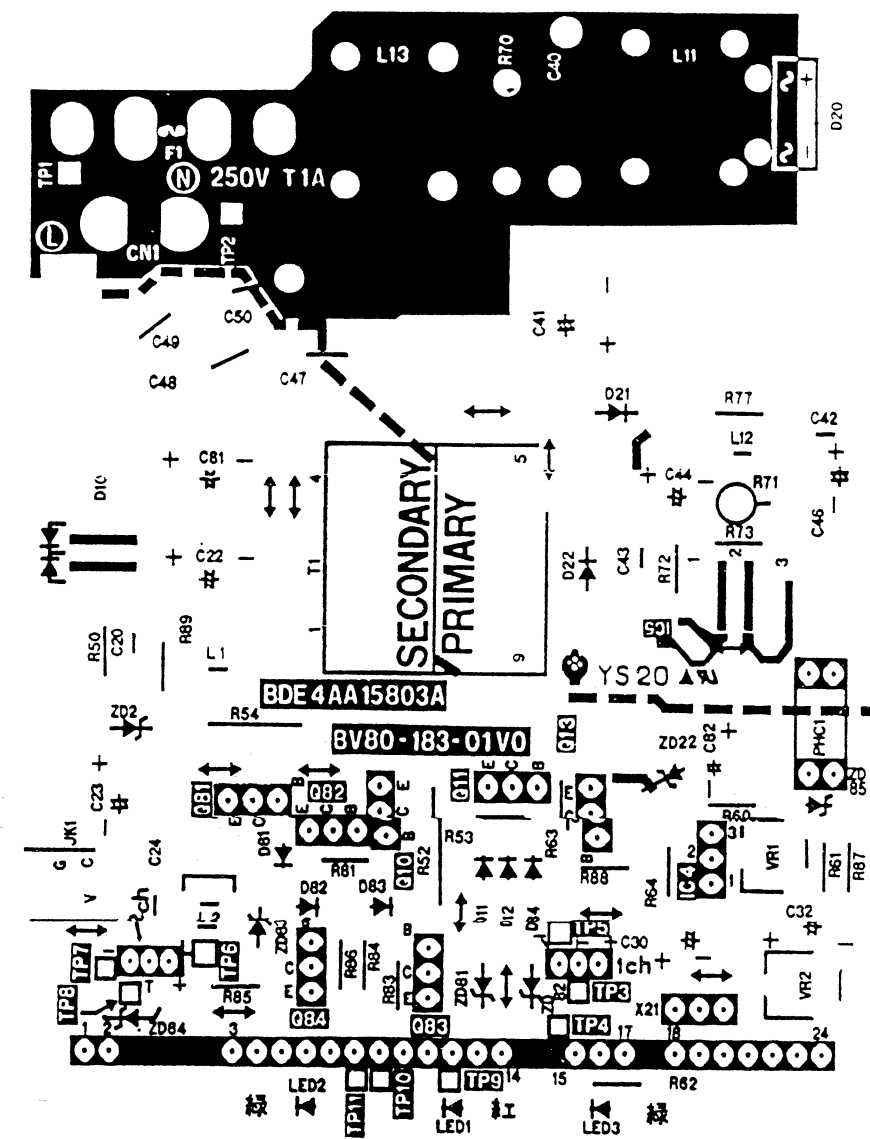
CABINET ASSEMBLY <M4>							
1		LY30814-002B	UPPER CASE ASSY	⚠ 4		YQ21032-008	AC POWER CORD.EK
2		PTY20290-012	LOWER CASE	5		PYT20290-111	BATT.TERM. BOARD.x2
⚠ 3		YQ10441-009	FUSE (F1, 250V 1A)	6		YQ10531-011	SCREW.x3
⚠ 4		YQ21032-007	AC POWER CORD.EG	⚠ 7		-	RATING LABEL

6.2 MAIN/SUB SCHEMATIC DIAGRAM

NOTE: When ordering parts, be sure to order according to the Part Number indicated in the Parts List.



Safety precautions
The components identified by the symbol  are critical for safety. For continued safety, replace safety critical components only with manufacture's recommended parts.

[illegible]

#	REF No	PART No	PART NAME DESCRIPTION	
	C82	QEHA1HM-475	E CAPACITOR	4.7uF 50V
	L1	PTY20080-533	CHOKE COIL	
	L2	PTY20080-534	CHOKE COIL	
△	L11	PTY20080-531	LINE FILTER	
	L12	YQ10626-432	FERRITE BEADS	
	L13	PTY20080-532	LINE FILTER	
	X21	YQ21032-305	CERAMIC RESONATOR	2MHz
	JK1	YQ21032-301	DC JACK	
△	T1	PTY20080-542	TRANSFORMER	
	HS1	PTY20070-571	HEAT SINK A	
	HS2	PTY20080-572	HEAT SINK B	
	FC1	YQ21032-304	FUSE CLIP	
	FC2	YQ21032-304	FUSE CLIP	
	OT1	PTY20080-581	SCREW	8mm
	OT2	PTY20080-582	SCREW	8mm
	PW2	YQ21032-002	SUB BOARD ASSY	

#	REF No	PART No	PART NAME DESCRIPTION	
	C82	QEHA1HM-475	E CAPACITOR	4.7uF 50V
	L1	PTY20080-533	CHOKE COIL	
	L2	PTY20080-534	CHOKE COIL	
△	L11	PTY20080-531	LINE FILTER	
	L12	YQ10626-432	FERRITE BEADS	
	L13	PTY20080-532	LINE FILTER	
	X21	YQ21032-305	CERAMIC RESONATOR	2MHz
	JK1	YQ21032-301	DC JACK	
△	T1	PTY20080-542	TRANSFORMER	
	HS1	PTY20070-571	HEAT SINK A	
	HS2	PTY20080-572	HEAT SINK B	
	FC1	YQ21032-304	FUSE CLIP	
	FC2	YQ21032-304	FUSE CLIP	
	OT1	PTY20080-581	SCREW	8mm
	OT2	PTY20080-582	SCREW	8mm
	PW2	YQ21032-002	SUB BOARD ASSY	

6.4 ELECTRICAL PARTS LIST

#	REF No	PART No	PART NAME DESCRIPTION	

MAIN/SUB BOARD ASSEMBLY <06>				
	PW1	YQ21032-003	MAIN/SUB BOARD ASSY	
	IC4	M5237L	VOLTAGE REGULATOR	
	IC5	MIP1640002DN	IC	
	Q10	2SB1592	TRANSISTOR	PNP
	Q10	or 2SA1615	TRANSISTOR	PNP
	Q11	2SC828	TRANSISTOR	NPN
	Q11	or 2SC945	TRANSISTOR	NPN
	Q11	or 2SC1740	TRANSISTOR	NPN
	Q13	2SA564	TRANSISTOR	PNP
	Q13	or 2SA733	TRANSISTOR	PNP
	Q81	2SA1592	TRANSISTOR	PNP
	Q81	or 2SA1615	TRANSISTOR	PNP
	Q82	2SC828	TRANSISTOR	NPN
	Q82	or 2SC945	TRANSISTOR	NPN
	Q82	or 2SC1740	TRANSISTOR	NPN
	Q83	2SA564	TRANSISTOR	PNP
	Q83	or 2SA733	TRANSISTOR	PNP
	Q84	2SA564	TRANSISTOR	PNP
	Q84	or 2SA733	TRANSISTOR	PNP
	D10	F10P10Q	SCHOTTKY BARRIER DIODE	
	D10	or YG802C09	SCHOTTKY BARRIER DIODE	
	D10	or MA7D61	SCHOTTKY BARRIER DIODE	
	D11	1N4148	DIODE	
	D11	or MA165	DIODE	
	D11	or 1N4148	DIODE	
	D12	1N4148	DIODE	
	D12	or MA165	DIODE	
	D12	or 1N4148	DIODE	
	D20	S1WBA60	BRIDGE DIODE	
	D21	AU02A	DIODE	
	D21	or ERA2208	DIODE	
	D22	AU02A	DIODE	
	D22	or ERA2204	DIODE	
	D81	1N4148	DIODE	
	D81	or MA165	DIODE	
	D81	or 1N4148	DIODE	
	D82	1N4148	DIODE	
	D82	or MA165	DIODE	
	D82	or 1N4148	DIODE	
	D83	1N4148	DIODE	
	D83	or MA165	DIODE	
	D83	or 1N4148	DIODE	
	D84	1N4148	DIODE	
	D84	or MA165	DIODE	
	D84	or 1N4148	DIODE	
	LED1	204IT	LED Power lamp	Red
	LED2	204SGT	LED Charge 2	Green
	LED3	204SGT	LED Charge 1	Green
	ZD2	BZX55C6V2	ZENER DIODE	
	ZD2	or MTZ6.2	ZENER DIODE	
	ZD2	or MTZJ6.2	ZENER DIODE	
	ZD2	or MA4062	ZENER DIODE	
	ZD22	BZX55C12	ZENER DIODE	
	ZD22	or MTZ12	ZENER DIODE	
	ZD22	or MTZJ12	ZENER DIODE	
	ZD22	or MA4120	ZENER DIODE	
	ZD81	BZX55C16	ZENER DIODE	
	ZD81	or MTZ16	ZENER DIODE	

#	REF No	PART No	PART NAME DESCRIPTION	
	ZD81	or MTZJ16	ZENER DIODE	
	ZD81	or MA4160	ZENER DIODE	
	ZD82	BZX55C16	ZENER DIODE	
	ZD82	or MTZ16	ZENER DIODE	
	ZD82	or MTZJ16	ZENER DIODE	
	ZD82	or MA4160	ZENER DIODE	
	ZD83	BZX55C16	ZENER DIODE	
	ZD83	or MTZ16	ZENER DIODE	
	ZD83	or MTZJ16	ZENER DIODE	
	ZD83	or MA4160	ZENER DIODE	
	ZD84	BZX55C16	ZENER DIODE	
	ZD84	or MTZ16	ZENER DIODE	
	ZD84	or MTZJ16	ZENER DIODE	
	ZD84	or MA4160	ZENER DIODE	
	ZD85	MTZ2.2	ZENER DIODE	
	ZD85	or MTZJ2.2	ZENER DIODE	
	ZD85	or MA4022	ZENER DIODE	
△	PHC1	PC123YS	PHOTO COUPLER	CTR100-200
△	PHC1	or PS25611M	PHOTO COUPLER	CTR50-240
△	PHC1	or PS25611H	PHOTO COUPLER	CTR50-160
	VR1	PTY20080-516	V RESISTOR	
	VR2	PTY20080-516	V RESISTOR	
	R50	PTY20080-512	RESISTOR	110Ω 1/4W
	R52	PTY20080-513	MF RESISTOR	0.47kΩ 1/2W
	R53	QRZ0125-103	RESISTOR	10kΩ 1/4W
	R54	YQ21032-101	RESISTOR	150kΩ 1/2W
	R60	QRZ0125-101	RESISTOR	100kΩ 1/4W
	R61	YQ21032-102	MF RESISTOR	49.9kΩ 1/4W
	R62	QRZ0125-471	RESISTOR	470kΩ 1/4W
	R63	QRZ0125-221	RESISTOR	220kΩ 1/4W
	R64	YQ21032-103	MF RESISTOR	162kΩ 1/4W
	R70	QRN141J-105	RESISTOR	1MΩ 1/4W
	R71	QRL014J-683	OM RESISTOR	58kΩ 1/1W
	R72	QRZ0125-3R3	RESISTOR	3.3kΩ 1/4W
	R73	QRZ0125-330	RESISTOR	33kΩ 1/4W
	R77	QRZ0125-101	RESISTOR	100kΩ 1/4W
	R81	QRZ0125-103	RESISTOR	10kΩ 1/4W
	R83	QRZ0125-105	RESISTOR	1MΩ 1/4W
	R84	QRZ0125-103	RESISTOR	10kΩ 1/4W
	R85	QRZ0125-105	RESISTOR	1MΩ 1/4W
	R86	QRZ0125-103	RESISTOR	10kΩ 1/4W
	R87	QRZ0125-104	RESISTOR	100kΩ 1/4W
	R88	QRZ0125-471	RESISTOR	470kΩ 1/4W
	R89	QRZ0125-102	RESISTOR	1kΩ 1/4W
	C20	YQ10626-408	CAPACITOR	1000pF 500V
	C22	YQ21032-201	E CAPACITOR	330uF 16V
	C23	QETL1CM-227	E CAPACITOR	220uF 16V
	C24	YQ10626-406	CAPACITOR	0.1uF 25V
	C30	QETL1CM-107	E CAPACITOR	100uF 16V
	C32	YQ21032-202	E CAPACITOR	1uF 50V
	C40	YQ10626-401	F CAPACITOR	0.068uF 250V
	C41	YQ10626-402	E CAPACITOR	47uF 400V
	C42	YQ10626-403	CAPACITOR	3300pF 500V
	C43	YQ10626-406	CAPACITOR	0.1uF 25V
	C44	YQ21032-203	E CAPACITOR	47uF 16V
	C46	QEHA1HM-475	E CAPACITOR	4.7uF 50V
	C47	YQ21032-208	CAPACITOR	1500pF
	C48	YQ21032-208	CAPACITOR	1500pF
	C49	YQ21032-208	CAPACITOR	1500pF
	C50	YQ21032-208	CAPACITOR	1500pF
	C81	YQ21032-201	E CAPACITOR	330uF 16V